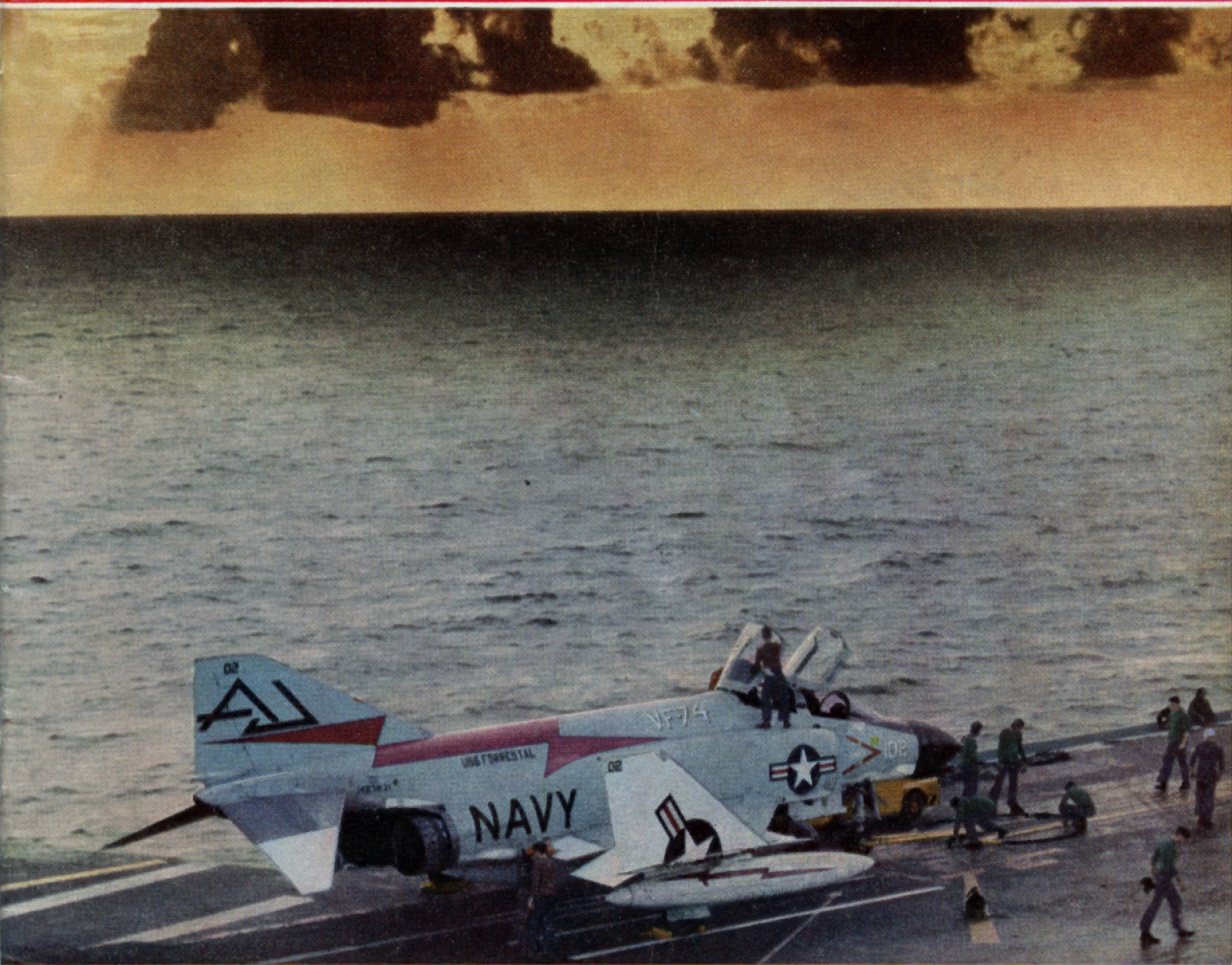


DECEMBER, 1965

AIRFIX

magazine FOR PLASTIC MODELLERS

MONTHLY **1'6**



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THIS
ISSUE**

**1:72 scale Phantom and OO Landing Craft kits
Panther, Mini and Tiger Moth kit conversions**



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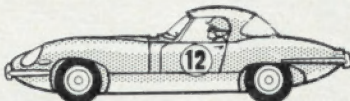
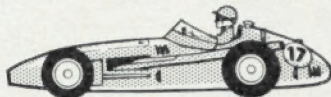
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FOR PLASTIC MODELLERS

Volume 7, Number 4

December, 1965

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The release of the new Airfix 1:72 scale kit of the McDonnell F-4B Phantom II (see page 104) coincided with the arrival of the first of these aircraft to be based in Britain. How the USAF Bentwaters base is equipping itself with this 1,600 mph fighter-bomber is described in detail on pages 106 and 107. Our cover shows one of the USS Forrestal-based Phantoms, which bears almost identical markings to those with which the Airfix model is provided.

(Illustration by courtesy of McDonnell Aircraft Corporation)

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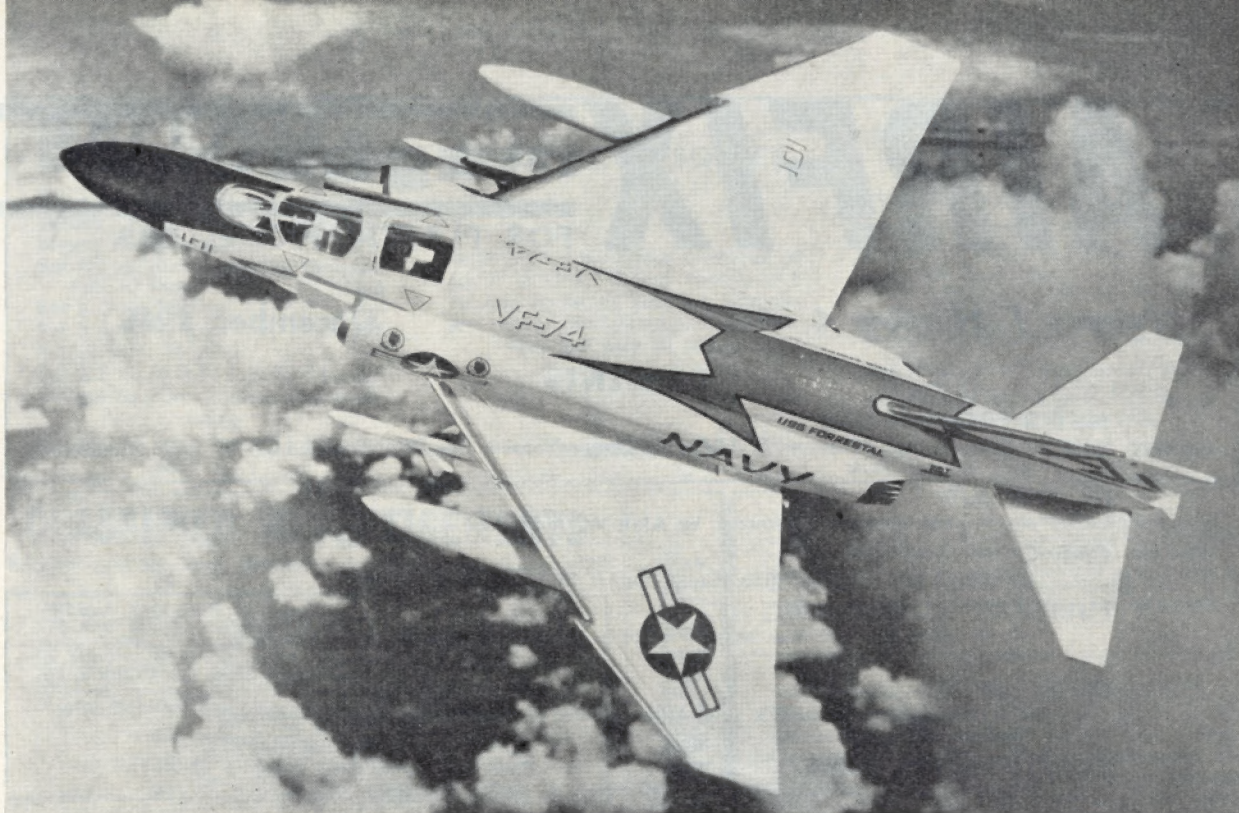
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Featured on our front cover this month, Airfix's latest 1:72 scale model aircraft release is the McDonnell Phantom II. Price of the 58-part kit is 4s 6d.

New Phantom II, LCM III and Dodge Monaco kits

LATEST new Airfix construction kits to be released include a 1:72 scale McDonnell F-4B Phantom II, an OO/HO scale LCM III, complete with Sherman Tank, and a 1:25 scale '65 Dodge Monaco 2+2 hardtop coupé. Added to the Airfix Series 3 range of 1:72 scale aircraft, the 58-part kit of the McDonnell F-4B Phantom II supersonic interceptor sells for 4s 6d. Colourfully boxed, it includes full painting and assembly instructions, cement and a fine 33-item full-colour transfer sheet.

There are several moving parts featured on the model, including a variable incidence tail-plane, and a lowering arrestor hook, typical of a carrier-based aeroplane. Options are provided for having either an open or closed cockpit canopy, and choice of undercarriage position is also left to the modeller. Perhaps the most impressive thing about the appearance of the Airfix Phantom is its very heavy under-wing load. In all, there are three large long-range tanks and no less than six miniature 'Sparrow' air-to-air missiles. Other features include an infra-red seeker pod beneath the nose cone, 'ramped' jet air intakes, twin fluted tail-pipe nozzles, a very high degree of anhedral on the movable tailplane, a pitot tube, upturned wingtips and the usual finely-moulded panel and rivet lines.

The F-4B is a twin-engined two-seat fighter capable of operating either from aircraft carriers or from short runways. Its

**NEWS FROM
AIRFIX**

The world's greatest value in construction kits

merits include an outstanding performance, with a maximum speed in level flight of more than 1,500 mph, an exceptionally long range and a landing speed as low as 130 mph. As an interceptor, the Phantom usually carries Sparrow missiles or a combination of both Sparrow and Sidewinder air-to-air missiles. As a bomber, it has twice the bomb load of one of the wartime Flying Fortresses, and with just the single centreline drop tank can cover 92 per cent of the earth's surface.

The F-4B Phantom as modelled by Airfix is powered by two General Electric J79-GE-8 turbojets, which give it a top speed of about Mach 2.5. Range with maximum external fuel load

is 2,300 miles, while armament varies greatly with the role chosen for any one particular aircraft. The Airfix model is 9 $\frac{3}{8}$ inches long and spans 6 $\frac{3}{8}$ inches. Details of the first USAF Phantom F-4s in Britain appear on the next page.

LCM III AND SHERMAN TANK

MOST recent release in the Airfix OO/HO scale military range should be welcomed by a great many modellers, for it has been strongly requested for quite some time. It is a combined kit of a Landing Craft Mechanised III and a Sherman Tank. A spirited colour illustration of one of these combinations in action on a beach-head decorates the box lid and, in addition to the usual comprehensive painting and assembly instructions, there are two colour transfer sheets carrying a total of 14 separate items, and also a capsule of cement.

The landing craft consists of 53 parts, and is moulded in pale grey plastic. The hull is supplied in one piece, and to this are added the upper decking, side walls for the well, and the lower deck, on which stands the tank when completed. A nine-part wheelhouse is fitted on the stern, protecting a miniature coxswain, and two other crew members—one standing and the other kneeling down—can be placed where desired. The two-part bow gate hinges freely up and down, though care must be exercised not to break the finely-moulded hinges. Other features include a Cavel capstan, six bitts, a jack staff, ventilators, a ramp winch, four towing pads, guard rails, a ladder to the lower deck, pulleys for the gate opening mechanism, a cable guide, an anchor, two propeller shafts and twin propellers and rudders.

The Sherman Tank is the already very popular 2s Airfix kit, and incorporates 55 parts. The running gear works, flexible tracks are provided, the turret swivels and the main gun elevates. Hatches may be cemented in place either open or closed, and the completed tank fits snugly into the landing craft's hold. This combined kit—the first in the OO scale military models range Series 3—is priced at 4s 6d.

The LCM III displaced a maximum of 52 tons laden and was

50 feet long overall. The 450 hp diesel engines gave the craft a speed of 11-12 knots and, with a crew of three, she could carry any vehicle from the Bren gun carrier up to the normal load of one Sherman Tank. The Airfix model is 7 $\frac{3}{4}$ inches long, and carries the 3 inch long Sherman with ease.

'65 DODGE MONACO 2+2 HARDTOP

AN ideal companion kit to the 1965 Chevrolet Corvette Sting Ray announced in our September issue is now being sold through Airfix stockists. It is another product of the American MPC firm, and is a fine 1:25 scale model of a '65 Dodge Monaco 2+2 hardtop.

The 136-part kit is moulded in a self-coloured metallic gold plastic, which largely precludes the need for any further painting. Clear plastic windows, a number of chromed parts, and steel axles are provided, and there are several customising accessories included for the modeller who wants to build something different. Moving parts are confined to the opening bonnet and revolving wheels, but moulded and fabricated detail is very good. The big Dodge V8 engine is complete with fan, alternator, exhausts, chrome rocker covers and air cleaner, and presents an impressive sight with the bonnet open.

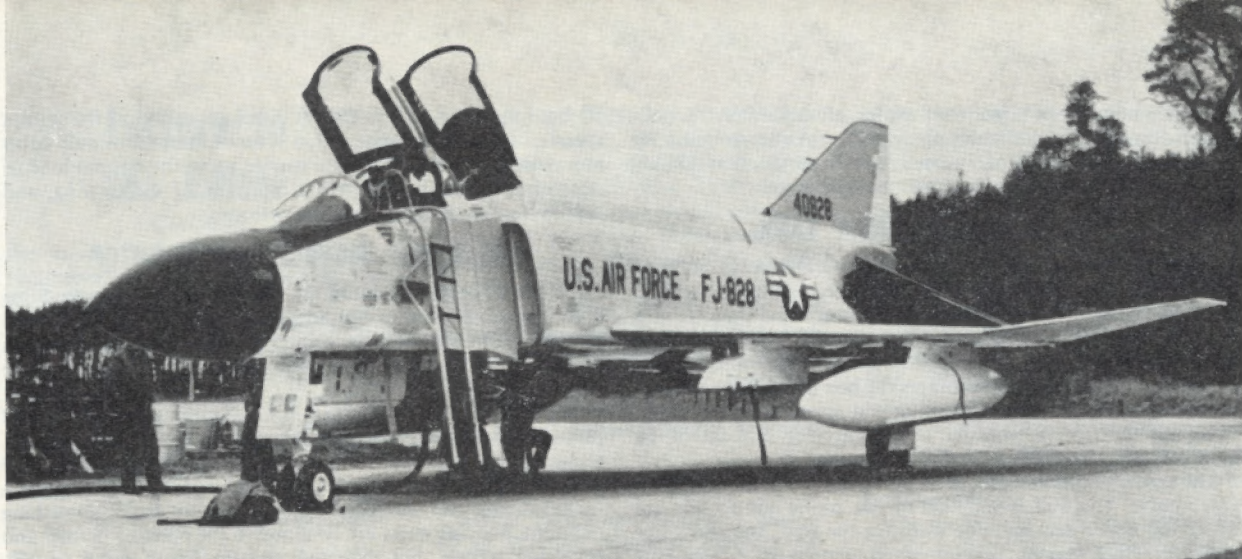
The interior is equally well appointed, with detailed instrument panel, central console, gear lever, seats and so on. The body boasts moulded lettering, door divisions, handles and fluting, and the hardtop has a grained 'fabric' finish. Large chromed bumpers are fitted fore and aft, and a full-width translucent red insert in the rear bumper gives a realistic tail light effect. The tyres have authentic Goodyear markings.

An ingenious stand is provided for displaying the finished model. This consists of a turntable resting on ball bearings and driven by an elastic band. This is wound up, the car is placed on the turntable, and the whole thing revolves slowly for anything up to four hours.

With the final refinement of a special contact paper which allows wood-grained inserts to be fitted along the sides of the car and on the fascia, the big 8 $\frac{1}{2}$ inch long Dodge costs 15s.

A familiar scene on Allied beach-heads during the last war was a Sherman tank disembarking from a landing craft. Illustrated here is the OO/HO scale Airfix double-kit (price 4s 6d) of a Sherman and the LCM III landing craft.





Post-flight check on an F-4C just arrived from the States includes immediate refuelling.



THE release of the Airfix 1:72 scale model of the McDonnell F-4 Phantom this month (see page 104) coincided with the arrival of the first of these aircraft in this country. Several RF-4Cs, the reconnaissance version of the Phantom, did reach Alconbury earlier than this but the main force of these 1,600 mph fighter-bombers will be going to equip the 81st Tactical Fighter Wing of the USAF at Bentwaters.

The temptation to see the new aircraft was therefore very great, and to find out more about it before the arrival of the model. With the help of 1st Lt Angelo Cerchione, the Information Officer at Bentwaters, and his staff I was able to see and photograph one of the first Phantoms just after its arrival.

NEW TECHNIQUES

Both the air and ground crews at Bentwaters are having to learn a great many new techniques with the introduction of the Phantom. Unlike their previous experience with the F-101 Voodoo, all servicing will be the responsibility of one unit. Each squadron will request the use of an aircraft from the servicing squadron for a particular mission, and this will be provided from the total complement of Phantoms on the base. Pilots will no longer have their own individual

aircraft, they may fly any one of the 50 or 60 Phantoms to be eventually based at Bentwaters.

The training of ground crews has presented a problem, for it is no longer possible to shift several thousand mechanics back to the States for the conversion course. A new aircraft today means that everyone has to start from scratch, as the systems in the aircraft and the maintenance schedules are entirely different.

The answer, therefore, was to build a training school at Bentwaters, and ground crew are now going through an intensive course to equip them for top-line servicing on their new mounts. The school has cost £100,000 to build and equip, and it includes just about everything for service training on engines, airframe, electronics and armament. There are 26 instructors assigned to the school under the command of Captain F. Dembski, and they will train 140 crewmen at a time. Each complete system in the aircraft is repeated in the school and there are some very ingenious training aids, like the J79 engine mock-up which has an associated electronics panel from which snags can be fed into the engine for the mechanics to discover and remedy.

ROTATION SYSTEM

In spite of the fact that Bentwaters is changing over to a new aircraft, the commitments to NATO remain, and the F-101 Voodoos have to be maintained at the alert while this is going on. Routine training continues for all pilots while some of their number are rotated to the States to return the ageing Voodoos and bring back Phantoms. A three-month course to convert to the Phantom awaits the aircrew in the US. This is done at the Davis-Montham AFB in Arizona, and when the pilot has passed his tests he picks up a new Phantom right off the line at Shaw AFB and flies this back to the UK, by way of the Azores and Moron AFB in Spain, using in-flight refuelling.

WIDEST USED FIGHTER

The Phantom is to be one of the few aircraft that both the USAF and US Navy have used in large quantities. It will also be supplied to the RAF and Royal Navy in about two years, and will therefore be one of the widest-used aircraft in present-day air force service.

It was originally developed for the US Navy by

AIRFIX magazine

McDonnell Aircraft Corporation, and the USAF have modified it into a tactical fighter capable of operating at the fastest speed and highest altitude combination of any operational aircraft in the free world today. Its top speed exceeds 1,600 mph and it can be flown at altitudes close to 60,000 feet. Its many attributes have been shown to the world by setting up no less than 15 world records over the past three years.

The two-man crew uses a radar system with the largest radar antenna ever installed in an air force fighter. It has repeatedly detected incoming targets at extreme ranges during tactical acquisition. When necessary, it may be used for an airborne approach radar system for landing when regular radar approach facilities are not available at the aircraft's destination.

Every type of ordinance now in use by tactical fighter squadrons has been tested in the F-4C. It can carry 750lb bombs, 660lb mines or napalm tanks, Bullpup air-to-surface missiles, or 15 pods each containing 19 2.75 air-to-surface rockets. The payload exceeds that of any wartime bomber.

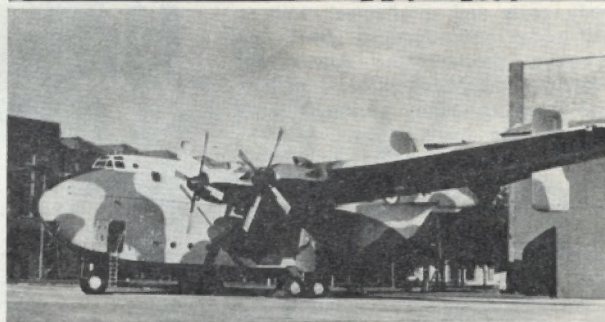
AIRCRAFT COLOURS

I closely questioned the USAF personnel I met at Bentwaters about the colour schemes to be used on the new Phantoms. Unlike their predecessors the Voodoos, the new aircraft will not show the three-colour stripes on the tail unit. Each aircraft will have the light grey upper surfaces and white undersides now common to all in-service Phantoms. Similarly, there is no suggestion that the aircraft will be camouflaged in common with other tactical aircraft, such as the F-105s and the lone RF-101 seen at Paris this year.

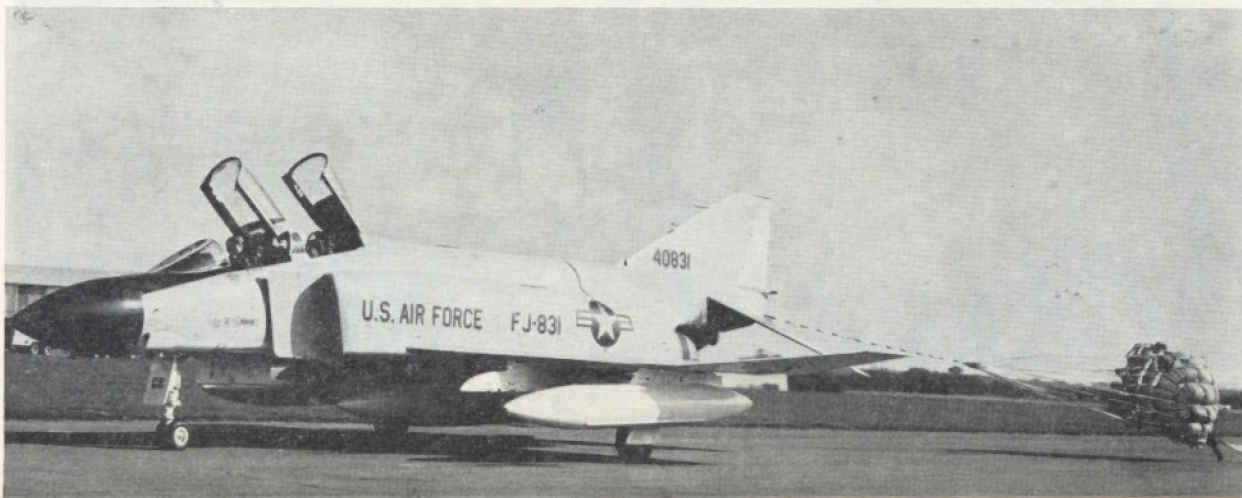
Orders can, however, be changed and, as it was pointed out, there can be no telling with those in command! At all events, camouflage is not to be applied to UK-based F-4Cs at the present time, so model makers can safely paint their new Phantom kits in grey and white in the hope that the scheme will not be changed too soon.

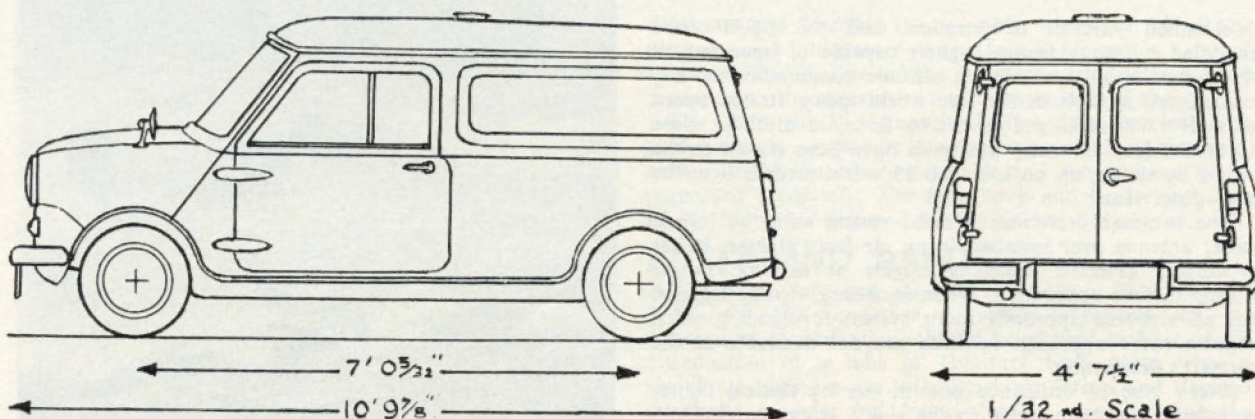
THE YEAR OF THE PHANTOM

It will be a pity not to see the long needle-nosed Voodoos contrailing for much longer and, although the Phantom is at the moment comparatively rare, it won't be long before it is one of the most common sightings to be noted. The USAF call 1965 the Year of the Phantom and, judging by the way in which new aircraft are arriving every week at Bentwaters, the complete complement will soon be assembled, and the Voodoo will be a thing of the past.



Above, top to bottom: In-flight refuelling of the Phantom can extend its range almost indefinitely. An aircraft of this type recently completed a record-breaking 18 hour, 10,000 mile endurance flight. The many stencilled instructions on the wings and fuselage of the Phantoms brought the remark from one mechanic that it was like having the flight manual written up for you on the aeroplane! Old bird, new colours. Seen at a recent ROC 'At Home' Day at RAF Thorney Island was this camouflaged Beverley XH124. The aircraft has sand and brown upper surfaces, apart from the cockpit top-decking, and gloss black undersides. Under-wing roundels are war-time red and blue only. **Below:** The second Phantom to arrive at Bentwaters was 40831, seen here streaming its drag 'chute after a long transatlantic crossing by way of the Azores and Spain.





The wheelbase of the commercial Mini variants is four inches longer than the saloon models, and this must be taken into account when carrying out the conversion described in this article.

MOST motor manufacturers offer commercial versions of their small private cars, using as many body parts and mechanical units as will serve both versions. BMC, for example, produce the Austin and Morris $\frac{1}{4}$ -ton Mini van and pick-up and there are many hundreds to be seen on the roads today.

Converting the Airfix 1:32 scale Mini kit into either of these two commercials is perfectly possible, and is a simple way of adding further variety to the Airfix range of modern cars.

Apart from obvious differences in the body shape, the main difference between the BMC Mini car and its commercial variants is the length of the wheelbase. The wheelbase of the car is 6 ft 8 $\frac{5}{32}$ inches and that of the commercial vehicles is 7 ft 0 $\frac{5}{32}$ inches—a difference of 4 inches. This

SIMPLE CAR KIT CONVERSION — By Norman Simmons

MAKING A MINI VAN

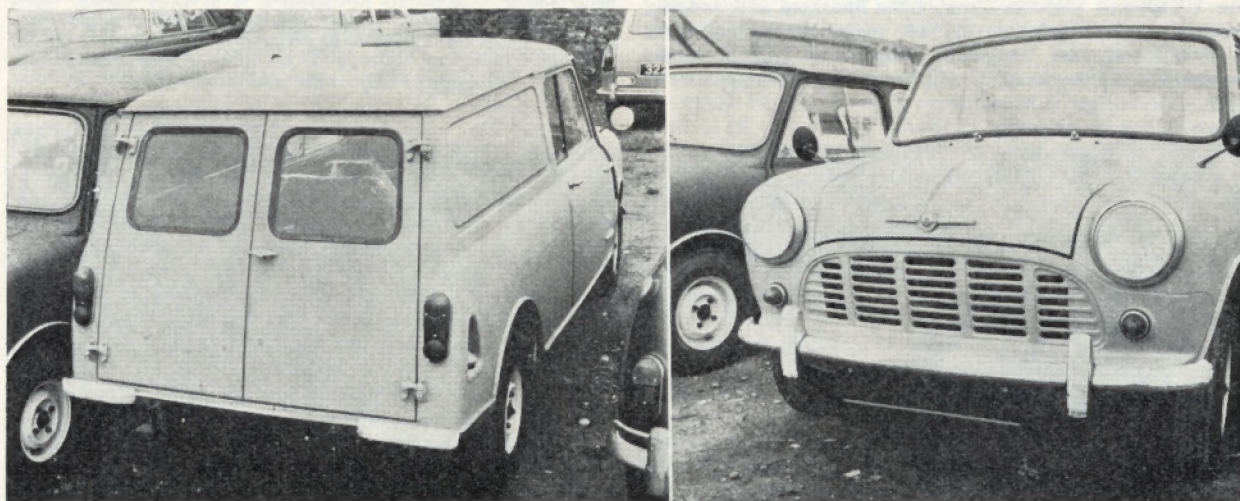
From the Airfix 1:32 scale Mini Minor saloon

is $\frac{1}{8}$ inch in 1:32 scale. The first step, therefore, in converting the Airfix Mini into either the van or the pick-up is to cut the chassis so that it can be lengthened by this amount. I found it best to make the cut immediately in front of the luggage pockets forward of the rear wheels.

The next step is to cut the body shell. This should be done with a vertical cut on both sides, immediately in front of the rear wheel arch, and another across the roof at a point about $\frac{1}{8}$ inch to the rear of the doors.

The front and rear suspensions should then be assembled as per operations 1 to 7 in the instruction sheet. Do not, however, fix the rear wheels in place at this stage. Next cement the front half of the chassis in position. A strip of $\frac{1}{8}$ inch balsa should be cut to the width of the chassis and glued (I used UHU, but any similar adhesive will do) in place immediately behind the front chassis. Now the rear chassis can be offered up and cemented in place. Before the cement and glue finally dries,

Front and rear views of a Mini van. As can be seen, this particular vehicle has overriders on the front bumpers. Some do, and some don't, but we chose to make our van model minus overriders.



temporarily fit the rear wheels and place the complete chassis on to a sheet of glass to make sure all four wheels sit on the deck fair and square.

The front radiator grille and bumper differ on the commercial models. For the grille use the Morris version, part no 33, as the basis and, with the pointed tip of a craft knife, carefully widen and deepen every alternate horizontal slot, and at the same time eradicate three of the seven vertical strips. There is no chrome on the normal commercial grille, so the thick ridge should be carved away from the top edge. Do most of this before you cement the grille in place, and trim up afterwards. Converting the bumpers is a simple matter of cutting off the over-riders.

Building the body

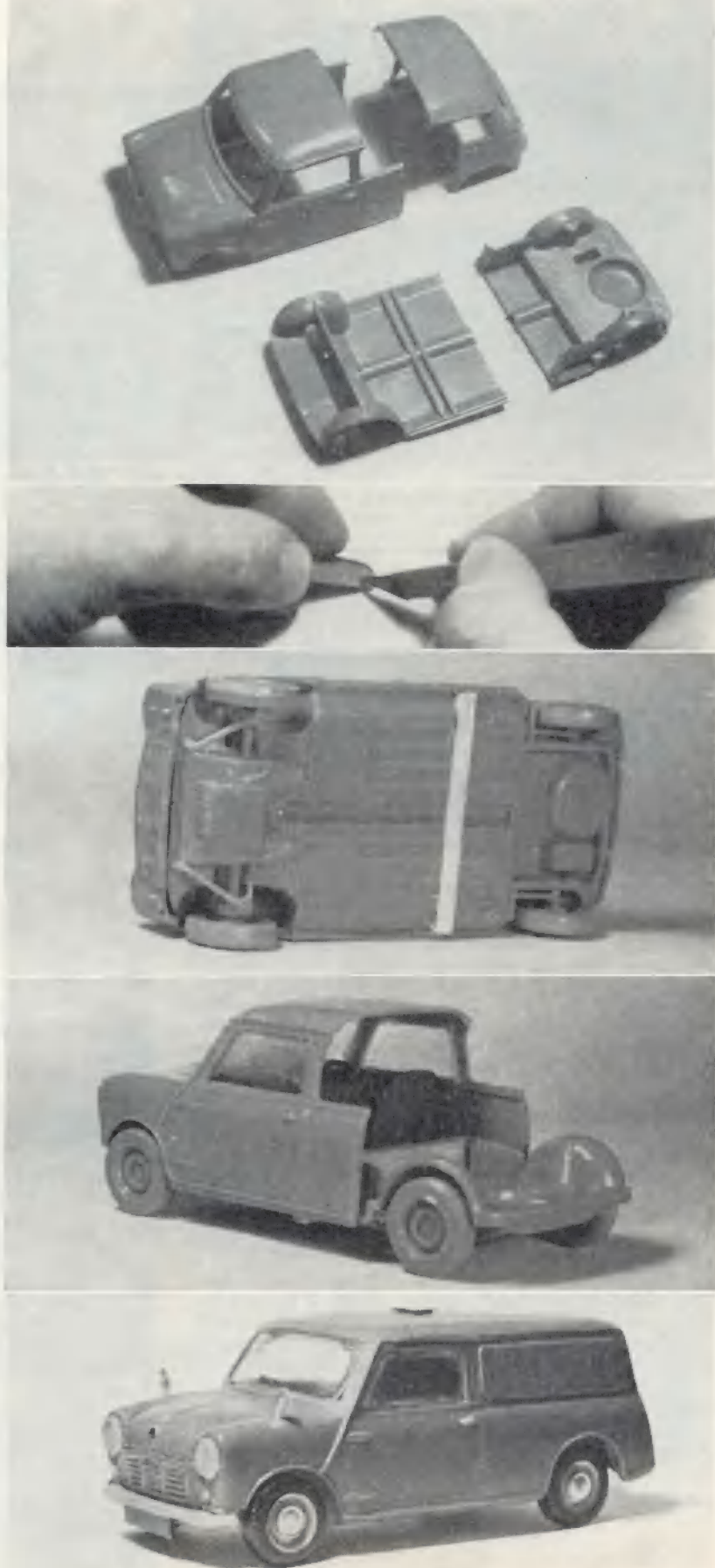
The van body I built out of $\frac{1}{8}$ inch sheet balsa wood. When cutting the van sides, critical points to watch are the position of the wheel arches and the edges where the front ends of the balsa sides join on to the plastic body. The roof was made of two pieces of balsa sheet glued together, one piece cut to fit between the sides and the other to fit above. The end doors I cut from plastic card supported by strips of balsa glued behind. When the van body has been assembled I advise putting it aside for 24 hours to give it a chance to set thoroughly.

Next, the balsa van body can be carved to shape, first with a craft knife, then with a file and fine sandpaper. A smear of 'Brummer' stopping was rubbed well into the wood and allowed to dry before sanding with fine sandpaper. The display panel on the side of the van was made out of a piece of plastic card.

Finally, such details as roof ventilator, wing mirrors, edging strip around the rear wheel arch, rear door hinges, door handles, number plate, tail lights, etc, can be added. The wing mirrors were made out of pieces of the discarded bumper over-riders, to which was cemented a small circular disc of plastic card.

Top to bottom: Cutting the saloon body/chassis to lengthen the wheelbase; modifying the radiator grille; $\frac{1}{8}$ inch strip of balsa used to lengthen chassis; assembled body/chassis before fitting van body; and completed model.

December, 1965





Two examples of Panther Bergepanzers, showing the appearance with and without side skirts. Note the shape of the model D hull (bottom). This view also shows the side extension on the superstructure and a platform on the glacis plate for an additional jib position. (Warpics photos.)

Military modelling

by C. O. ELLIS

The Panther Bergepanzer

FROM THE AIRFIX PANTHER KIT

SO far in this series no German special-purpose vehicles have been mentioned, thus leaving many miniature Panzer units without the support they would need to function efficiently in battle. The most important requirement is for a recovery tank to bring in damaged armoured vehicles from the front line. 'Lame' tanks are likely to fall to the enemy on a battlefield if they are not speedily recovered, and it is the normal practice for armoured units in action to be followed up by recovery elements who retrieve repairable vehicles, where possible, and immobilise any others to prevent them being recovered by the enemy.

The Germans originally used modified light tanks like the Lynx or various half-track prime movers for recovery purposes, but with the introduction of the Panther there was a requirement for a much heavier vehicle to tow and winch a tank of this much increased weight. A number of the early production Panther model D chassis were therefore modified as recovery tanks (German: Bergepanzer) each complete with winch and fitted with spade attachments.

Using the Panther kit from the Airfix range, an interesting replica of the Bergepanzer can be constructed with a minimum of skill and, in fact, the model can be as simple as you wish to make it, for this particular vehicle had plenty of 'optional extras' which could be omitted if desired. Among these options were the spade—not always fitted—the jib, and the extensions on the superstructure. The jib

was carried in unit transport and could be erected on either side as required. Superstructure extensions were of wood with metal strapping; those on the sides were hinged to fall downwards, but the front and back extensions were rigid and slotted into apertures on the superstructure top edges. All were detachable and were frequently removed and carried on the vehicle.

Now follow the photographs for the method of construction, and take all measurements from the drawings. I am grateful to reader P. Chamberlain for providing information on the interior layout and rigging details of these vehicles.

CONSTRUCTIONAL DETAILS

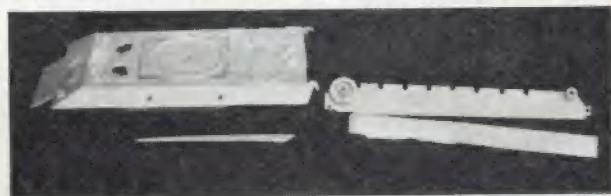
STAGE 1

You can approach this model in two ways, depending on whether you wish to go for a fully-detailed job or whether you want a quicker and simpler model. These first two stages cover the more detailed one. The main modification for this version is the alteration of the lower edge of the hull sides to give the correct Panther model D shape. (The Airfix kit represents the later model G.) Cut away the lower edge as in the picture, and also cut the track cover away from the chassis side in parts 50 and 51.

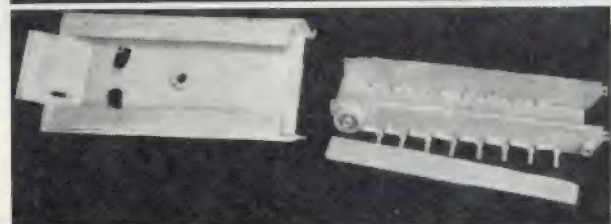
Take the hull top and carefully file away the front machine gun mounting to give a flush glacis plate. The vision plate opposite the m/g is *not* removed. If you are working with one of the earlier kits you will have to cut out a card vision hatch and cement it in this position. A slot is left where the machine gun bulge was removed: cover this with a vertical 4 x 1 mm strip of card to represent the opening machine gun port of the model D. Then file off the episcopes situated in the centre-front of the hull top, forward of the hatch plate. Finally mark out the area to be cut away to take recovery equipment. This is clearly shown in the picture.

STAGE 2

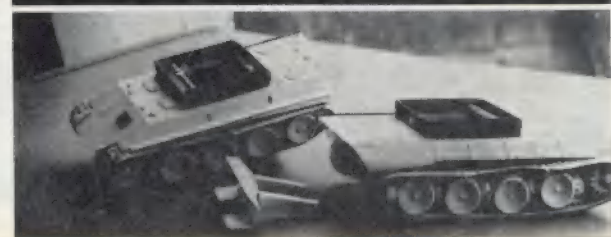
The track covers are cemented into the lower edge of the hull top, while the chassis sides are cemented to the bottom. When dry the bottom is cemented to the modified hull top, with scrap plastic strips sandwiched between the sides and the track covers at the rear end only to compen-



1



2



3

sate for the cutting away of the hull sides. To see why this is, use an assembled Panther model as a guide. The modified hull must 'sit' on the ground at the same level and angle as the original Panther model does. The 'packing' at this point—I used card strips here—will be obscured by the track later on.

STAGE 3

The modified hull shape is now apparent in the model on the right of this picture. The narrow triangular extensions are cut from scrap plastic and cemented beneath the hull sides. File away the back plate to take the extensions, which must be cemented in place *vertically*. Before the back plate is finally fixed, cut a dummy floor from card and cement it beneath the opening in the hull—the track covers will support this floor.

On the left is seen the simple way of avoiding the work described in stages 1 and 2. On this model I am going to fit skirt armour—one of the 'options'—as shown in in one of the prototype pictures. So the hull is made up in the normal manner, but with a 'stringer' cemented along each side at the equivalent lower level of the model D hull side. Cut the stringer from card or styrene sheet, the full length of the hull and tapering from 1.5 mm at the front end to 0.5 mm at the rear. The superstructure is now added: note the hole drilled in the centre of the rear face to take the winch wire. In the meantime a start can be made with the spade, if you decide to fit one. I made mine from card with strips of 1/16th inch plastic sheet for the legs. If you don't have this stuff, balsa or strip wood should do just as well. Note that there are reinforcing strips on the front faces of the spade.

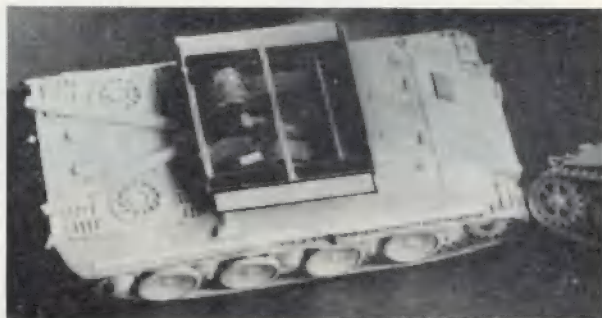
STAGE 4

This is a close-up of the interior details. Note the double side walls which form interior stowage boxes. There is a cross-bar and interior ledges which I cut from spare Buffalo track covers (left over from last month) and plastic sheet. Plastic cocktail sticks, cemented as shown, are cut to length for stays to hold up the spade. Interior (from top) is fitted with drum of wire, winch sheaves in centre, and drive cover below as seen in this view. All are made from scrap.

STAGE 5

If the spade is to be used, cement it in place now and fit the other rear hull details given in the drawing. Then fit the wooden superstructure extensions and the ribs which support them. The side-pieces can be cemented in either the upright or lowered positions, and some—or all—of these fittings can be omitted if desired. If you don't fit the spade you can still include the fittings for it on the model. The spade was removable and not all vehicles were supplied with them; units switched spades from vehicle to vehicle if necessary.

Continued on page 115



4



5

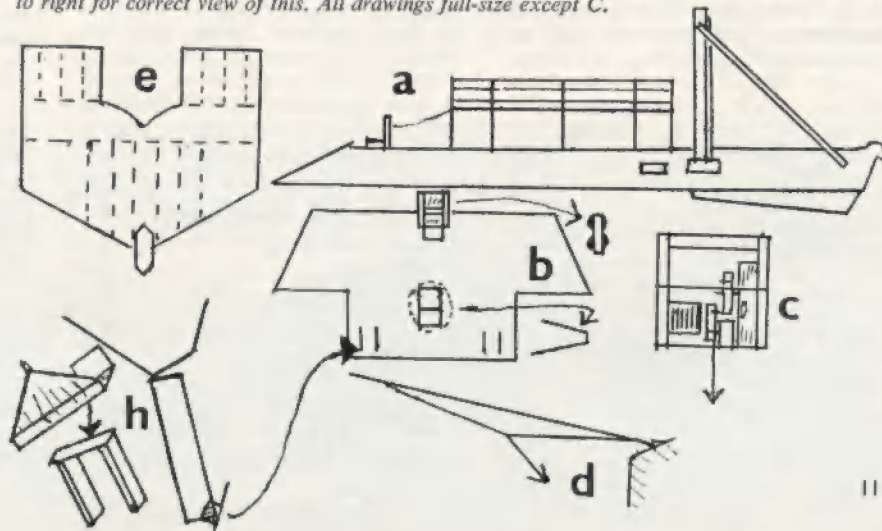


6



7

Key to drawings: E—Spade; ribs on reverse side shown dotted. H—Legs for spade and sketch showing assembly. A—Side view of Bergepanzer superstructure and hull, showing model D hull form and position of kingpost for jib. A further support leg is carried across to the opposite side of the superstructure. B—Rear view, with tow hook, spade sockets, and fairleads. C—Half-size plan view of interior shows full layout. D—Pattern for jib and kingpost. Turn page to right for correct view of this. All drawings full-size except C.





Completed slot-racing version of the Airfix Chevrolet Sting Ray, powered by a five-pole MRRC motor. Chassis construction was described last month; assembly and mounting of the body is dealt with in this concluding article.

Wheelspin

BY BERT LAMKIN

Motorising the Airfix Chevrolet Sting Ray—part 2

HAVING completed construction (as described last month) of the motorised chassis for the Airfix Chevrolet Corvette Sting Ray, the assembly and mounting of the body can be undertaken. The first item is the interior (part 6) which will require cutting away to clear the frame. A junior Eclipse saw and a small file are the tools for this, and sketch A shows what has to be removed.

Check that the interior sits squarely

across the chassis, with the boot floor and front panel resting on top of the frame. The small holes in the top of the wheel arches are directly above the rear axle. Now solder an 8 BA nut to a small rectangle of tin (drill a small hole at the centre, using a drill that will just pass through the nut). Trim a matchstick to a tight fit in the hole, slip the nut over and solder. A 10 BA clearance hole is then drilled either side of the nut, as shown in sketch B. This plate is then bolted to the underside of the boot to form, in due course, the rear chassis fixing point.

The interior can now be painted; in fact you will find it easier to paint before installing all the interior fittings. I used matt black for the floor

and wheel arches, and blue for the door panels, with silver for handles, etc. The two seats will also need cutting; the amount to remove can be judged with the interior shell resting on the chassis. After cutting and painting, the seats can be cemented into position on the remaining portion of the floor.

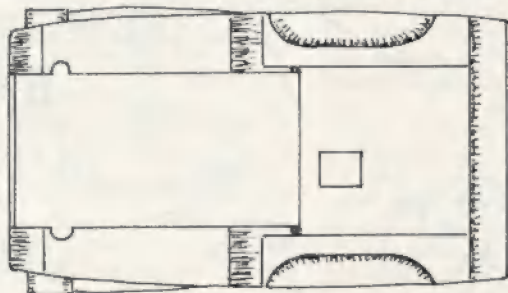
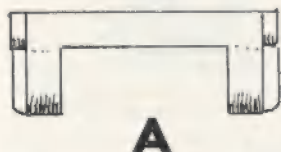
The steering wheel and dashboard are the next to receive the brush treatment. A look at the interior of almost any American car will give you the idea. The rims of the dials and various switches can be picked out with silver—it is up to you how much detail is shown.

Driver details

With the paint dry, the steering wheel is cemented to the dashboard, with its rim level with the curved top of the dash, and the central spoke at the bottom. The driver can now be assembled and, when the cement is set, remove any small ridges or flash left by the mould. He will need modifying, as his feet are below the top of the chassis—this can be checked, as with the seats, then when painted cement him to the seat. You will notice that he has the wheel in his lap, with a short-arm stance reminiscent of pre-war drivers.

The dashboard is now fitted, being located by the small recesses on the interior. Make sure that it is right home, otherwise it will foul the windscreen. The rear view mirror, etc, is now mounted, and because we aim to race the Sting Ray, the roll-over bar is fitted, although I left off the

All drawings are keyed and referred to in the text.



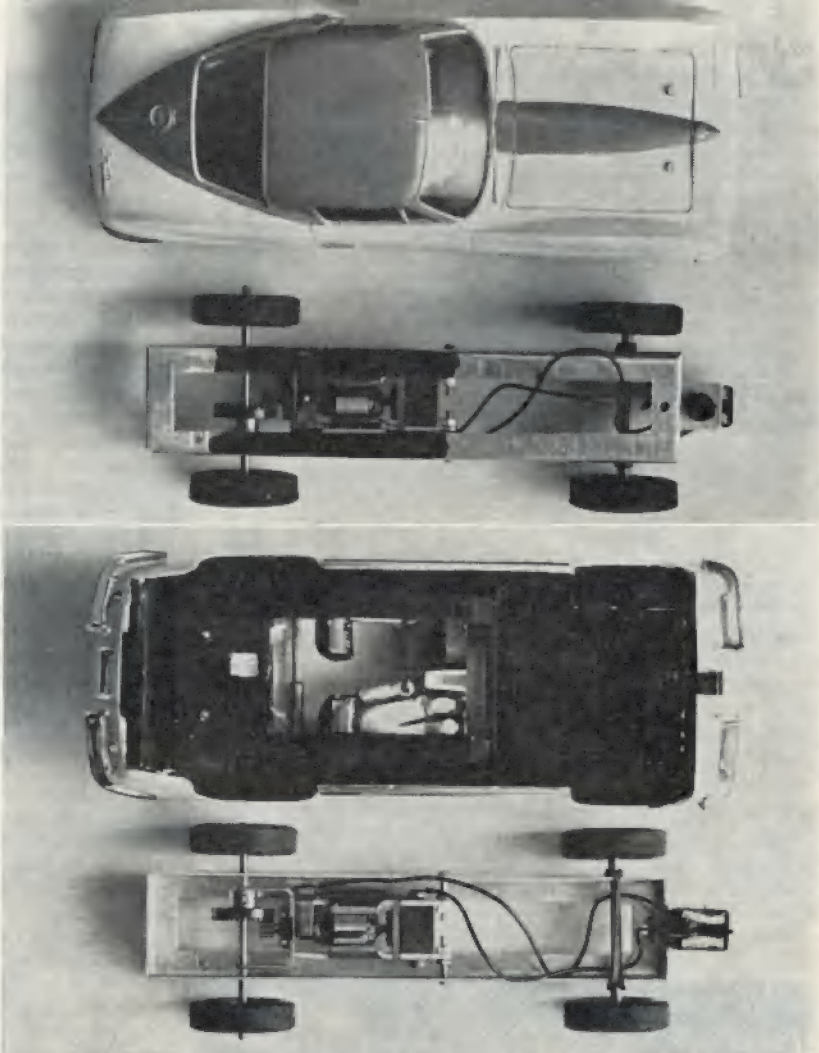
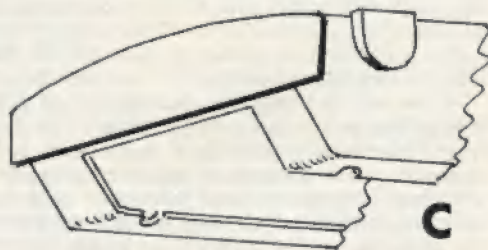
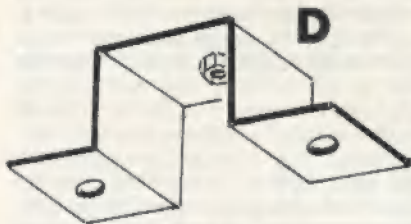
front horizontal bar as it seemed to be directly in the driver's line of vision.

At this stage in the proceedings one has to decide what colour the car is to be, and also whether to have the supercharger on show or keep the bonnet line smooth. I chose the latter, as it is not intended to install the engine compartment and all the works. If you want the blower, however, this can be mounted on the bonnet with the aperture, separately; (being an American car I suppose I should refer to the 'hood' rather than bonnet). Having decided which version to adopt, cement the hood and rear lower panel in position and paint the body to your choice. When thoroughly dry, and not before, fit the windscreen and rear window as per the kit instructions. I found that a certain amount of trimming was needed on the bottom edges to keep them level with the inside of the body.

The interior unit can now be installed; to anchor the front of this unit a piece of plastic card was cemented to the front panel, as shown in sketch C. The interior is attached to the body by the ledge at the rear of the boot and the plastic card. Check that it is located correctly, a small block and elastic band will hold the two parts together while setting.

The front chassis fixing must now be arranged. This is a metal bracket, of brass or tin, shaped as shown in sketch D. An 8 BA nut is soldered to the inside of the U, and the bracket bolted to the inside of the bonnet with two 10 BA bolts. It is best to mount the bracket before soldering the nut. Then, with the chassis in position temporarily, you can drill through frame and bracket to ensure alignment.

The part called the front splash pan is now fitted and because it will foul the guide shoe cut a $\frac{1}{4}$ inch section out of the middle and use small pieces of plastic card to support the inner ends—check the height for the supports before cutting.

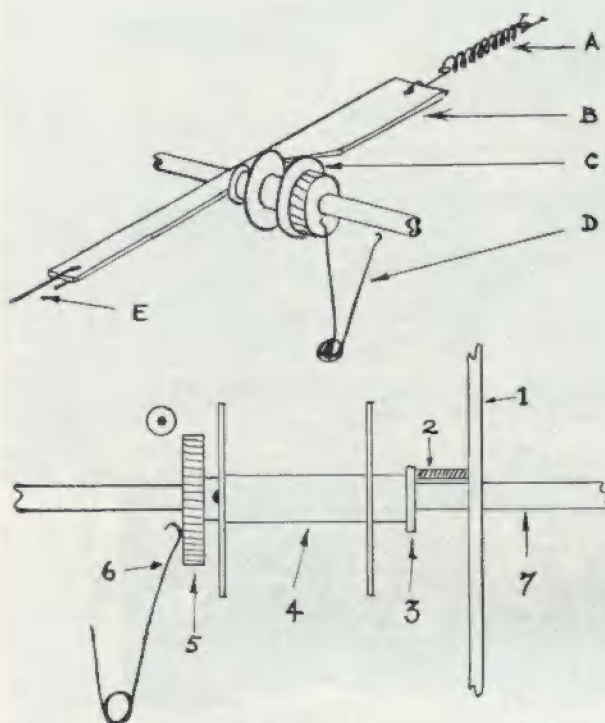


Top picture shows body and chassis from above. Undersides of both are shown in the second picture. The chassis is held to the body by three easily-removable screws.

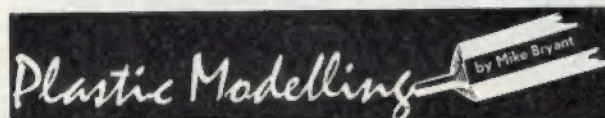
The finishing touches can now be added to the body, such as the chrome side panels, bumpers, grille, tail lights, etc. Windscreen wipers, door handles, and quarter light frames are painted silver, and competition numbers added. If you have a yen for them, the American decals can be applied, although I personally prefer to omit the 'commercials'.

The body is now mounted on the

chassis. I invariably give the whole underside a coat of matt black before fitting. For the rear fixing a small metal plate 1 inch \times $\frac{1}{2}$ inch is required to bear down on the inner flange of the frame, the 8 BA bolt passing through this plate to register with the nut already fitted. You are now ready, after a spot of thin oil on the bearing surfaces, for a trial run on the nearest large circuit.



Top: Clutch operation. Key— (A) return spring, (B) sliding bar, (C) winding drum, (D) disengagement spring, (E) control wire. **Above:** Winding drum on shaft—note that second drum can be on same shaft to the left. Key (1) sideframe, (2) sliding bar, (3) metal washer, (4) winding drum, (5) worm wheel, (6) disengagement spring, (7) free shaft.



Remote-controlled cranes

WITH so much good proprietary equipment available these days, there seems to be much more time for the finer details on model layouts, and there has been an increased demand for operating lineside effects. A number of these are available commercially, but unfortunately their price puts many of them firmly in the luxury class. However, mechanical loading and unloading by remote control need not necessarily mean buying a ready-made unit, and the average modeller can make some highly effective set pieces. There is, of course, no reason why such models should be associated with railways—they make excellent models by themselves or in conjunction with, for example, a road layout or a model dock.

In past articles I have described a motorised dock crane and a travelling gantry crane; these carried their 'works' in the crane themselves—a method of motorisation which required quite a complicated system of current collecting from the rails. The system now described has the 'works' quite independent of the crane itself, so that they can be fitted anywhere reasonably near the crane, suitably camouflaged under a building.

The type of crane I designed it for was to be used in a model timber yard; it was particularly easy to motorise because the slewing action was limited to a restricted arc. If you want a crane which can rotate through 360 degrees—as, for example, a hammerhead crane or one of those enormous slender monsters which can be seen on building sites—it would, of course, be best to put the motors in the part of the crane which rotates.

When I designed this mechanism I spent a long time working out a complicated system with one motor and a series of solenoid-operated clutches to engage the three necessary motions—lifting, luffing and slewing. This method is perfectly workable provided that it is built with care, but it has certain disadvantages. Perhaps the most important is that the solenoids need 16 or 20 volts AC or DC to work them satisfactorily.

This is not difficult if the model is being used in conjunction with a model railway, as the power supply for the point operation can be used, but if the crane is being used on its own, the outlay for a transformer is hardly justified for this one use.

The second disadvantage is that the various clutch mechanisms with their solenoids are not particularly easy to build, nor are they very compact—a thing that always irritates me because I like all these operating effects to be easy to install and to tuck away out-of-sight without a lot of elaborate camouflage. It is also possible to operate the clutches manually; this is probably the simplest way, using model railway point levers and steel piano wire in tubing, or wire only with a return spring.

MULTI-MOTOR METHOD

It was while I was going into all these variations of control that I began to wonder if all this complication was really necessary. The plain blunt fact is that the cheapest Japanese motor costs only about 3s, which is far less than the cheapest commercial solenoid and, as in this case space is not at a premium, there is really no reason why three of these least expensive motors should not be used to provide the three motions needed. I suppose it all depends on what you want—the easiest way (which is undoubtedly to use three motors), or the enjoyment of building a gearbox.

A few notes on actual construction details applicable to either system may be useful. Plastic sheet of the thicker variety is perfectly satisfactory. If the mechanism is going to have a

lot of use, I should recommend the reinforcement of all bearing holes with short lengths of thin brass tubing. You can get $\frac{3}{32}$ inch internal diameter tubing at model aircraft stores, and $\frac{1}{16}$ inch lengths of it cemented into the bearings holes will not only prevent wear but will also reduce friction. Cement them in place with the shaft in position—that way they will be correctly aligned.

The fact that the cheapest motors do not have baseplates need not be a difficulty. The armature on this type of motor runs in brass bushes, which obligingly stand proud of the casing. These can be mounted in holes in plastic bearing plates or trunnions, with a spot of cement to prevent the motor twisting in the mounting.

Winding drums I usually make integral with the worm wheel. I make a gummed parcel tape tube by rolling a length of tape round a pencil. When it has had time to harden, I cut a half-inch length, remove the grub screw from the worm wheel, and slip the tube over the brass boss with plenty of adhesive. Two shellacked card washers cemented on to the tube form the drum

ends—if they are a bit larger than the worm wheel diameter there is less chance of the cord getting involved with the gear!

The slewing mechanism demands that the drive belt to the crane should be taut. The slots in the mechanism baseplate for fastening it down to the baseboard mean that it can be adjusted if the drive becomes slack after some use. Alternatively, a tensioning pulley can be arranged somewhere along the belt. This method should be used where mechanical control of the unit is being employed and the power unit cannot be moved in relation to the controls.

CONTROL UNIT

Assuming you are using three motors, a simple battery box with control levers for the three movements is required. Each motor needs a reversing switch with centre 'off' position. Such switches are comparatively expensive to buy commercially but, provided that care is taken in assembly, they are not difficult to make. The diagram shows an exploded view of one such switch; the three needed can be banked neatly to make an impressive control panel with the battery contained in the same box.

METHODS OF LIFTING

If an ordinary hook is being used, there must be plenty of weight in it to keep the line taut—the usual method is to have a lead ball above the hook proper. If you want to avoid the use of the human hand in hooking up loads, you will have to make the hook oversize and fairly 'open'. Weighted sacks or bags can have a wire loop at their necks to engage the hook—again make the loops oversize. Some people may wish to experiment with electro-magnetic loading by suspending an electro magnet from the crane hook; this will require the loops on sacks to be of soft iron wire, or for the head of an iron nail to be embedded in the top of the sack.

The magnet will have to be powered from a 16 or 20 volt power pack, as the drain on batteries would be too great to energise the magnet properly, and the leads will have to be brought from a point at the side of the crane; any attempt to

bring them over the pulley at the top of the jib would be impractical, I think. Treat your magnet with respect and do not leave the current on too long or you will get overheating and possible burning out.

Using the cheapest Japanese motor (without baseplate and with long shaft), two worms are force-fitted on to the driving shaft. The two winding drums are made up as in the drawing, with rolled gumstrip tubes extending beyond the winding drums. The worm wheel shaft has two drums with a light spring between them which tends to throw the drums out of engagement from the worm. The gears are engaged by the sliding bars at each end—a metal washer between the end of the gumstrip tube and these bars will take the wear. The sliding bars can be worked by wire from a point lever or by a point motor. I think it best to make the bars of metal as they have a good deal of wear.

The second worm engages a worm wheel on a vertical shaft to drive the slewing mechanism. This shaft does not need a drum—the belt should be taken round the bare shaft twice. Once again the shaft is spring loaded to disengage *upwards*, that is, clear of the hoisting and luffing drums. This spring is best kept out of the way of the driving band by a bearing located *above* the top bearing plate, thrusting against a collar.

Copyright, Mike Bryant, 1965

MILITARY MODELLING —Continued

STAGE 6

Side skirt armour is now fitted if you are making the simpler model. It measures 77 mm x 6 mm, scored into *seven* sections and cemented to the stringer. If you are making the more complicated model, without the skirts, cement the top run of the track to the wheel tops, thus giving the characteristic Panther 'sag'. Spare track shoes can be added if desired, and one of my models sports the optional jib, which can be made from strips of plastic sheet. Final detail points can include supports for a canvas cover over the front hatches, and the brackets for the timber baulk on the left side only. These project 5 mm from the superstructure side at each end and are full-depth. Note that there is a support for the side extensions when lowered. This rests on a bracket on each hull side as marked on the side drawing.

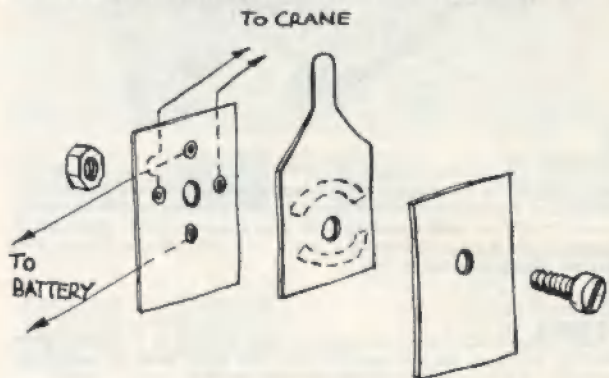
STAGE 7

The models are now ready for painting. Cut the timber baulks from balsa and fit them inside the brackets. They are used for shoving obstacles or damaged vehicles, and are stayed on to special plates on the nose. These can be seen in the prototype picture—one or two were fitted, and in model form they can be 5 mm wide by 4 mm deep rectangles of card. Use fine chain for a jib purchase, if fitted, and fill the stowage boxes with odds and ends to represent spare parts and tools.

For the winch wire I used thick brown thread, wrapping this round and round the drum inside the vehicle and leading it out through the hole in the rear face to the fair-lead aft. Finish off the 'wire' with an eye, tied in the thread and left hanging down over the spade. For a really simple model don't worry about interior fittings at all—just cover a chunk of scrap plastic with paper to represent a canvas cover over the winch. Just one final point: the exhaust pipes were lengthened on Bergepanzers to clear the spade in the raised positions. This entails inserting a 3 mm plastic rod in the pipe just below the curve-over.



Above: Schematic layout. Key—(1) controls, (2) power unit, (3) crane. Below: Simple reversing switch. Segments of brass washer are impact cemented to unseen side of lever plate. Wires are riveted to back plate—the rivet heads form contact studs.





COLD WEATHER TIGER

TIGER Moths built by de Havilland (Canada) during the war were converted, by the addition of a cockpit canopy, for use in the extreme weather conditions found in certain parts of Canada. This conversion provides a simple exercise for the model maker, involving the moulding of a canopy from clear acetate sheet. It is ideal for the beginner who has not tackled this sort of work before, as the dimensions and shape are relatively easy to produce.

The enthusiastic model maker is often put off moulding canopies as the results do not come up to expectations. The work is, however, not difficult if fairly thick acetate sheet is used and the right temperature applied before moulding. Articles in previous issues will give additional information on this subject.

My main source of reference for this conversion came from *Aircraft of the Fighting Powers Vol 2* and copies of the *Aeroplane Spotter*. Military markings for an aircraft in use in 1943 have been shown, but many of these aircraft were sold after the war and appeared in civilian guise. CF-BNF, shown at the head of this page, is a typical example.

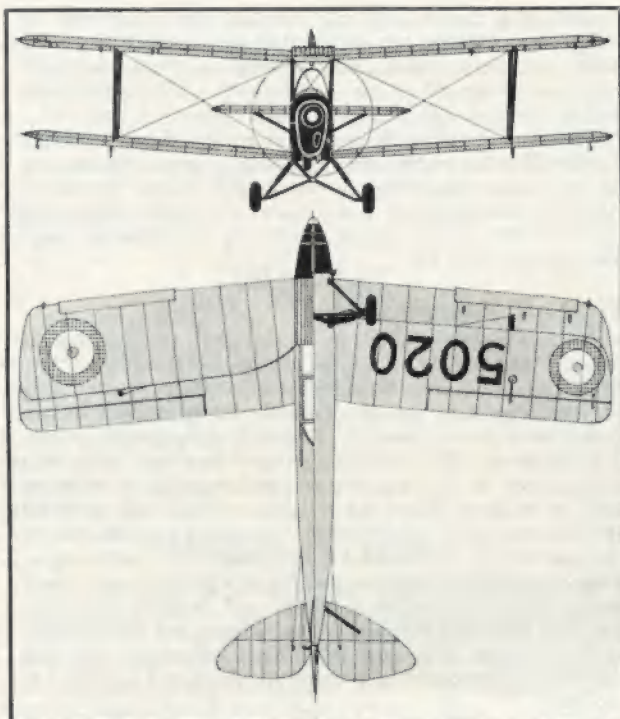


Alan W. Hall shows how to convert a standard Airfix Tiger Moth into the version used by the RCAF during the war



STAGE 1 Cockpit interior is painted black and the fuselage, tail unit and lower wings are assembled according to kit instructions. All parts are cleaned up before assembly, and joints sanded down afterwards. A canopy mould is cut from balsa according to the plan and mounted on dowel rod. A female mould is cut in the centre of a 1/8 inch sheet of obechi and thick acetate sheet is attached by pins.

STAGE 2 The canopy is moulded under the grill of an electric stove, and cut out to fit the area required. It is then stuck down by polystyrene cement, and held in place by the fingers until set (left).



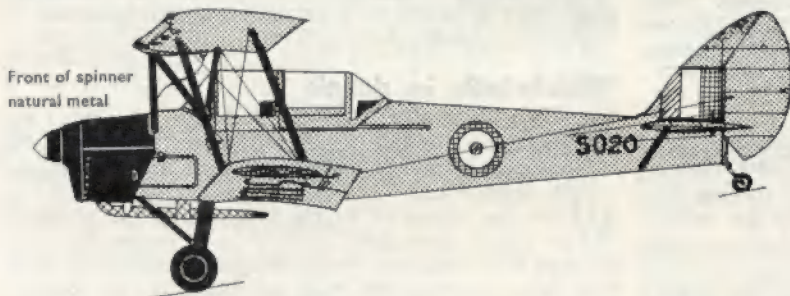
COLOUR SCHEME

All Canadian Air Force Tiger Moths were painted trainer yellow overall, with the engine cowling in gloss black. Wing struts and undercarriage were also painted black. Serials, also black which were numerals only, appear under the wings and on the rear fuselage. Use 3/8 inch Yeoman transfers for wings and Letraset for fuselage sides. Roundels came from the Airfix Tiger Moth kit and fin stripe from Airfix Harvard transfers. Front of the spinner was left natural metal.



1:72 SCALE

Drawings by Richard L. Ward



Yellow



Black



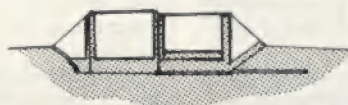
Bronze



Red



Blue



COCKPIT CANOPY SECTION



STAGE 3 Cockpit runners are made from stretched plastic stem, and at this stage the fuselage lower wings and canopy lines are painted. It will not be possible to do this when the top wing is assembled. A tail wheel from a Spitfire kit is stuck in position.



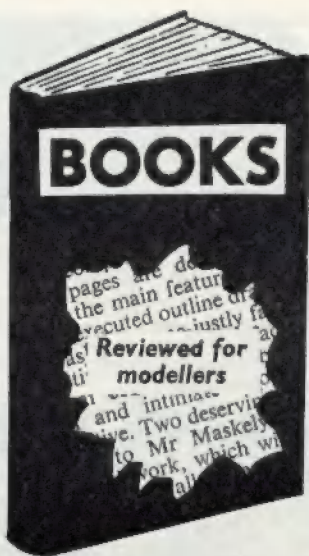
STAGE 4 The main undercarriage is attached according to kit instructions, and the wing struts are assembled. These are painted, together with the top wing, and allowed to dry. The top wing is then attached as shown in the photograph.



STAGE 5 When the wing assembly has dried thoroughly, and any paintwork has been touched up, bracing wires are added. These are made from fine nylon thread, grey or black in colour. Start by attaching one long thread to a centre section strut and, when dry, continue round the other attachment points using a tiny dab of cement to hold the thread in position. Finish off with a knot. Complete transfer application according to plans.



NEW BOOKS



More on slot racing

ELECTRIC MODEL CAR RACING, by D. J. Laidlaw-Dickson. Published by Museum Press Ltd, 26 Old Brompton Road, London, SW7. Price 21s.

WHEN, in the August issue, we reviewed two welcome new books on slot racing, we commented that good books on model motor racing were few and far between. We also mentioned that a third new title was due soon, and that it would have to be good to stand comparison with the two we reviewed then. In fact, two more books on this healthy hobby have since appeared—and they are good.

Electric Model Car Racing runs to 127 text-packed pages, and also contains a good selection of drawings and photographs. The accent is on car building, but a large slice of the book is given to the subject of track construction. The 18 chapters cover the history of the hobby, scales, simple cars, chassis (both simple and elaborate), body-building, modelling drivers, finishing, fitting lights, drag racing, track construction and embellishment, lap recorders, speed controllers and car clubs. In addition, there is a useful index, a glossary, lists of International racing colours and a summary of the general competition rules of the Electric Car Racing Association.

The author—who is Editor of *Model Cars*—has been keenly interested in and closely connected with electric model cars for ten years. How else, but by reading this book, could you pick such an expert's brains for only a guinea?

Quart in a pint pot

SIMPLE ELECTRIC CAR RACING, by Vic Smeed. Published by Model Aeronautical Press Ltd, 13-35 Bridge Street, Hemel Hempstead, Herts. Price 10s 6d.

THIS book is a real lesson in how to cram a quart into a pint pot. Again, the author—who is Editor of *Model Maker*—is extremely well-versed in both making and writing about model cars, and in 104 pages of well-illustrated text he puts the subject over concisely but comprehensively in a clear, simple, easy-to-understand style.

All essential facets of slot racing are covered, including its beginning, workshop technique, motors, gears, wheels and tyres, pick-ups and steering, chassis, bodies, tracks,

electrics and racing. The text is made particularly easy to follow by generous use of illustrations—in fact there are almost as many pictures and drawings as there are pages. Two useful appendices give extracts from the ECRA rules and an International racing car colour code.

Of the four recent titles on slot racing, this is certainly the best for beginners, who may like to leave reading one of the more penetrating books on the hobby until later. All four are excellent, and keen model motor racing enthusiasts will not be happy until they have bought, read and digested them all!

First of a series

FIGHTERS VOL 1, by J. M. Bruce. Published by Macdonald & Co Ltd, 2 Portman Street, London W1. Price 12s 6d.

THIS new book—to the same format as the earlier series by Macdonalds on aircraft of the Second World War—introduces the reader to aircraft types used in the previous conflict.

J. M. Bruce, that noted author and historian of the first aircraft used for both military and civil purposes, provides us with an excellent factual list of fighter aircraft used by Great Britain between the years 1914-18. The book is an authoritative, compact source of reference on more than 50 aircraft, ranging from the Austin Greyhound and the AD Scout to such better known fighters as the Bristol Fighter and the DH2. Each type has been illustrated by a three-view drawing and photographs, some of which are as rare as they are interesting. We look forward to the second volume of this book and to others in the series.

Picture album

NORTH WESTERN ALBUM, compiled by C. C. Dorman. Published by Ian Allan, Terminal House, Shepperton, Middx. Price 30s.

IF you are interested in the L & NWR, or if you just like looking at photographs of pre-grouping trains, this book is for you. There are nearly 100 pages of photographs, most of which are full page size. Locomotives and trains predominate, but there are also interesting glimpses inside Euston, Carlisle and other L & NWR stations, and various features with a strong North Western flavour. An index might have given the book greater scope, but otherwise it is a very acceptable picture album.

Whirlwinds in detail

WESTLAND WHIRLWIND, by Bruce Robertson. Published by Kookaburra Publications, and distributed in the UK by Beaumont Aviation Literature, 11 Bath Street, London, ECI. Price 7s 6d.

WITH the advent of Profile Publications, the reviewer is almost inevitably tempted to compare the two styles of book, but on a close inspection the reader will find that there is a great deal more information in the Kookaburra offerings. This does not mean to say the Profile Publications lack interest—far from it! Kookaburra's Whirlwind, for example, has a great many more pages and information on the structure of the aircraft than can possibly be contained in the smaller format used by the Profiles.

Bruce Robertson has written an extremely interesting and authoritative volume of information on the aircraft, which includes details of every Whirlwind produced and its history, complete details of the specification, and a history of the aircraft's development and use in action. There are many good photographs, among which are some illus-

trating the cockpit area, and therefore of great use to the model maker. Camouflage patterns are described, and there are several three-view drawings showing the internal and external construction of each variant.

Austria's railways

RAILWAY HOLIDAY IN AUSTRIA, by O. S. Nock. Published by David & Charles (Publishers) Ltd, 39 Strand, Dawlish, Devon, and distributed by MacDonald & Co (Publishers) Ltd, Gulf House, 2 Portman Street, London, W1. Price 30s.

THE third in David & Charles' Railway Holiday series deals with the railways of Austria. Having ourselves just spent a brief holiday in that country, it provided much that was not known or realised about the railways we had seen, and described many more interesting lines than we just did not know existed. If only we had read the book before we started our holiday!

This illustrates the tremendous value of the Railway Holiday series—O. S. Nock's volume on Austria in particular. In 158 pages of text it gives a compact description of the Austrian system and brings to light many interesting features that might otherwise go unsuspected and overlooked. We were particularly thrilled with the description of the Graz-to-Köflacherbahn line, which operates a fantastic fleet of steam locomotives, one of which the author saw working as recently as 1964—and it was then 104 years old! The book includes a few diagrams, a map and 48 well-selected photographs. O. S. Nock clearly enjoyed his several visits to Austria and his enthusiasm for the subject makes this a particularly enjoyable book.

Filling a gap

PFALZ, compiled by Peter M. Grosz and Egon Kruger. Published by World War I Aero Publishers Inc, Box 142, West Roxbury, Mass, USA. Price 14s 6d.

DURING World War I, the production of fighter aircraft by the Germans centred on three firms, Fokker, Albatross and Pfalz. Although much has been published about the two former companies, little has been written about Pfalz, even though at least one of their designs, the DXII, was as important as anything else produced.

This book attempts to alter that omission, and does so by giving a history of the company, its war-time activities, and the aircraft it produced. The text is well illustrated by photographs, and there are some interesting drawings, obviously taken from the manufacturer's originals, giving constructional details. Aero Publishers are to be congratulated on producing a book about a section of aviation history which has previously been missed.

Annual trio

LOCOSPOTTERS' ANNUAL 1966, price 8s 6d. **TRAINS ANNUAL 1966**, price 12s 6d. **BUSES ANNUAL 1966**, by R. S. Allen-Smith, price 12s 6d. All published by Ian Allan, Terminal House, Shepperton, Middx.

IAN Allan's annuals have always set a high standard and the 1966 editions for bus and railway enthusiasts are no exception. *Locospotters' Annual* is intended for the junior train spotter who is keen to extend his railway knowledge. The book's 64 pages include nine well-written feature articles, covering historical as well as topical articles, two quiz features and a whole host of illustrations.

Trains Annual is set in smaller type and has 96 pages. There are ten main articles covering a diverse range of subjects. The Isle of Wight's fight for its railways is one. The island's railways also feature in *Locospotters' Annual*, a very popular subject this year. At the time these books

went to press, it was expected that there would be more closures, but at the time we went to press these have been deferred—so the fight goes on! Other articles describe a journey to Mallaig, preserving a Duchess pacific at Butlins, shunting, the Settle & Carlisle line, and railways in Germany and Greece. A double-page colour plate and several good reproductions of coloured photographs are common to both railway volumes.

There are no colour plates in the *Buses Annual*, but otherwise it follows the pattern of the other two volumes. In 88 pages there are eight main articles covering an extremely interesting range of subjects, such as the story of the AEC K type, pre-war AEC Regents and Regals, bus operation in Lanarkshire, airport buses, buses in Budapest and a look at the future of the bus industry.

All three annuals are printed on fine art paper, bound in stiff covers, and are excellent value at their price.

Something to suit all tastes

AIRCRAFT ANNUAL 1966, by John W. R. Taylor. Published by Ian Allan Ltd, Shepperton, Middx. Price 12s 6d.

JOHN Taylor's annual comment on the state of aviation in the world has become one of the books which discerning students of this subject look forward to. Although intended to be a book for the younger reader, it contains a host of interesting material from established writers on all manner of topics connected with aviation. The space race has also been included in this year's edition, with an excellent article by Maurice Allward on Mariner IV.

Aircraft historians will be interested in Basil Clarke's review of the aircraft model collection brought together by the Qantas airline, and in Bruce Robertson's article about the types of aircraft employed by the neutral countries during both world wars. The book is a well balanced collection of articles to suit all tastes, both young and old.

Another year's aeromodelling

AEROMODELLER ANNUAL 1965-66. Published by the Model Aeronautical Press Ltd, 13-35 Bridge Street, Hemel Hempstead, Herts. Price 10s 6d.

THIS annual has now been appearing every year since 1948, and has become an established part of the aeromodelling world. This year, as on all previous occasions, it contains a wealth of interesting articles from all parts of the world, reflecting the advances made in the hobby during the last 12 months.

Although primarily for the pure flying model enthusiast, the book does hold an interest for those whose hobby is of the more static variety. There are articles on many new designs for both powered and glider models, the complete list of the 1965 World Free Flight model championships and other competitions, plus a review of new engines and radio control. One article is devoted to water rockets, a new method of using those empty detergent dispensers for a pretty remarkable rocket which will reach a height of at least 100 feet.

Seasonal gift

1966 TRAINS DIARY, published by Ian Allan, Terminal House, Shepperton, Middx. Price 5s.

A PART from the usual information one expects to find in a diary, Ian Allan's *Trains Diary* contains 30 pages of useful railway information, such as facts and figures on locomotives, train headcodes, signals, tunnels, gradients, bridges and express trains at home and abroad. An obvious seasonal gift for anyone with a fondness for railways.



A B-25J, 428844, in natural finish.

I WELL remember the first Mitchell that passed my way. It ambled across Cambridge at about 2,000 feet on July 31, 1942, from Boscombe Down, conspicuous in its brown and green finish, with the customary yellow undersurfaces and 'P' prototype marking proving it to be FL-191, the first machine the RAF tested. July 31 was one of those hot days that seemed to bless our summers then, and the mixture of aircraft that roved that day included Masters with clipped wings—then an event—Mustang 1s, Typhoons, Blenheim IVs, Spitfire Vbs, Hurricanes, Whitley II K7257 from 10 Bombing and Gunnery School, a Boston II and a Blenheim VD which appeared as the Mitchell passed. I recall I was torn between enjoying the sight of the newcomer and the all-black Blenheim landing at Cambridge and carrying the blue code letters 'PF'. The Mitchell's engines popped away as only a Mitchell's could, and there was no denying that gull wing was most peculiar at first witness.

The next Mitchell to confront me came in circumstances more exciting. A little past 18.00 hours on September 8, 1942, it appeared from the east quite low. Escorting it were two Spitfire Vs and the trio wore US insignia, the Mitchell coming from a unit of the Twelfth Air Force awaiting the call to North Africa. The Mitchell I assumed to be a B-25C, and in my brief viewing I could see it was painted olive drab with light blue undersurfaces, upon which US Army was painted in black. On its fins in that sickly yellow enjoyed by American aircraft at the time was the serial—large, but not quite large enough for me!

It seemed then that whenever I was to see a Mitchell my attention was to be torn between this and something else exciting, for overhead a Halifax II towed laboriously a Hamilcar prototype, shorn of its wheels and about to undergo a landing test at Newmarket. Those were memorable

days, and this had more excitement to offer later when several Do 217Es arrived to give a local firework display, upon which I heard a Mosquito intrude. One of the Dorniers fell in small pieces near Royston. Thinking back upon that day I recall I set to work to discover more about 'that Mitchell', one of the relatively few I was to see in native garb.

It was to a USAAC proposal of 1938 that North American designed their Model 40 shoulder wing twin-engined bomber, with raised cockpit canopy, twin tail unit and tricycle undercarriage. It carried a crew of three and 1,200 lb bomb load. When it first flew in January, 1939, it was powered by Pratt & Whitney R-1830s. These were soon replaced by Wright Cyclone GR-2600s, each increasing engine power by 250 hp. In this form it became the NA-40B, but not for long, since it was destroyed in a crash after revealing a good performance.

To achieve something even better it was re-designed as the NA-62 with double the bomb load, achieved by moving the cockpit forward. The mainplane was lowered, longer nacelles fitted, crew increased to five and a hand-held gun installed at the rear of the fuselage, in addition to the nose gun and two hand-held amidships. Under the

USAAC designation B-25, 24 of these machines were ordered in September, 1939, the first flying on August 19, 1940. Top speed was 322 mph. These machines had a wider fuselage and therefore a greater span than the original aircraft. To improve directional stability, the tenth and all subsequent B-25s had a gull wing. The nose and amidships guns were all .30 inch calibre, whereas there was a .50 inch tail gun. With self-sealing tanks and armour, the aircraft became the B-25A, of which 40 were produced. No 17 Bomb Group USAAC was the first operational formation to receive B-25s, and used them for anti-submarine patrols over the Pacific.

PROFILE



The Mitchell: a successful medium bomber

Delivery of the B-25B began in August, 1941. One hundred and nineteen were built, featuring dorsal and ventral turrets amidships, the lower being periscopically sighted. The rear gunner's position was replaced by one for an unarmed observer. It was B-25Bs of No 17 BG that made startling news on April 18, 1942, when 16 took off from the carrier USS *Hornet* 800 miles off Japan and, led by Lt Col Jimmy Doolittle, set course for the Japanese mainland and Tokyo. Kobe, Yokohama and Nagoya. These aircraft had their ventral turrets removed to increase their range. All were lost, either to enemy action, lack of fuel or bad weather. To the summer of 1942 the 17th Group used B-25s, latterly to patrol the Gulf of Mexico before receiving Martin B-26s. By now the 3rd Bomb Group had B-25Bs, and initially flew them in Australia. Operations over New Guinea began in January, 1943, and the B-25s took part in the raids on Port Moresby. Participation in the Battle of the Bismarck Sea came in March, 1943, and on August 17 the Group received a Distinguished Unit Citation for attacks on airfields in the Wewak area in the face of intense flak.

By this time two new versions of the B-25 were in use, the B-25C-NA with R2699-13 engines and autopilot, of which 1,619 were built in 1941, and the B-25D-NC Kansas City version of the B-25C, of which 2,290 were produced. Deliveries were soon made to the RAF, who knew the aircraft as Mitchell, a name adopted by the USAAF. Twenty-three B-25Bs, FK161-183, were allotted to Britain, but all except two remained in North America, and most were despatched to 111 OTU, Nassau, for training purposes. In June, 1942, most of the batch FL164-218 arrived in Britain and were quickly followed by others, FL671-709 arriving in July, 1942. These were all Mitchell IIs.

In the main, Mitchells went to Nos 98 and 180 Squadrons, although in July and August deliveries of small numbers were also made to Nos 21 and 114 Squadrons pending the arrival of Venturas and Blenheim Vs, respectively. The RAF was not, however, too happy with the armament of the Mitchell, and thus its service debut was slow. Nevertheless, large numbers were arriving, probably including FL851-874 (B-25C), of which little is known. Other Mk IIs were FR141-207, nearly all of which were used by No 320 Sqn, Royal Netherlands Air Force in Britain; FR208-209, both B-25G (see later) which were still known as Mk IIs; FR362-384 and FR393-397, B-25C, delivered 1943; FV900-939, B-25D, delivery of which began in May, 1943; FV940-FW280, B-25C; HD302-345, B-25Ds, which arrived in April, 1944; and KL133-161, B-25Ds, used by the RCAF at No 5 (RCAF) OTU.

On January 22, 1943, six Mitchells of 98 Sqn and six from No 180 made the first attack of the type in RAF hands



265128, a B-25G in green-grey camouflage. Note the red outline to the national insignia.

when they bombed the oil plant at Terneuzen, near Ghent. Three were lost, two of them to Fw 190s over the sea, from this low-level attack. Operations other than ASR patrols were halted and it was May, 1943, before they were resumed and modifications to turrets completed. An interesting point at once apparent on the RAF Mitchells was their olive drab and dark green paintwork common to American bombers, for these were diversions from USAAF requirements under Lend Lease. In RAF hands many acquired dark green and dark grey paintwork. Squadron letters were red, squadron codes being ahead of the roundels, and the individual letter was applied aft of the fuselage roundel initially, at least on 98's aircraft. By March, 1943, the individual letter was on the side of the nose, the standard position, ahead of the vertical red line applied alongside the propeller disc for safety reasons. At this time, the Mitchells were busily engaged upon Exercise Spartan, but they carried no special markings for this.

The XB-25E and 25F were experimental conversions carrying special types of de-icing gear. The following XB-25G was of far greater importance, for it carried a 75mm field gun in its nose, firing a 23 inch long shell and having a 21 inch recoil as the 15 lb shell was fired. On this version the nose was shortened and solid, and also contained two .50 inch guns. Four hundred and five B-25Gs were built and used operationally against ground targets and shipping in the Middle and Far East by the USAAF from 1943 onwards. One snag encountered was that the run-in needed to be steady, allowing enemy gunners to line up on the approaching Mitchell. Therefore two .50 inch guns were placed on each side of the nose to enhance the fire as the aircraft made its run up. As with all forms of specialised armament, specialised targets to suit its needs were called for. Therefore use was limited.

Increased armament was featured by the B-25H, with a 75 mm nose gun and four .50 inch guns in the side packs. One thousand were built. A very noticeable modification was the resiting of the dorsal turret immediately aft of the cockpit. Two guns were situated in the side windows placed

Continued on next page

A B-25C, 112633, of the US Army Air Corps.





Top: A B-25D, 129967, in Italy wearing green/grey finish with many bombs painted on the nose and 9M in black on the fin. Note the absence of a dorsal turret and red outline to the insignia. (Photo via Ron Clarke.) **Below:** VO-A:FV 914 dropping long-tailed 500 lb bombs.

PROFILE—Continued

amidships, and twin rear guns in a power-operated mounting, the gunner being housed in a redesigned tail position. The crew numbered five and a 3,200 lb load or a torpedo could be carried by the B-25H, which entered service in the Far East in February, 1944, for a role similar to that of the B-25G.

A clear nose for the bomb aimer was again a feature of the B-25J, which had the forward-placed turret of the B-25H and the extra guns on the nose side: 4,318 B-25Js were built, more than any other version, and it could for short-range operations carry a 4,000 lb load or a torpedo. Three hundred and fourteen were delivered to Britain, HD346—the first—arriving on August 25, 1944. The others were HD347-400, KJ561-800 and KP308-328, but relatively few joined the squadrons. In spite of an inauspicious start in RAF hands, the Mitchell proved itself a highly efficient machine once the turret troubles were over. Losses were particularly light on the medium-altitude bombing raids which it was largely employed upon.

American Air Force B-25s served in the Middle and Far East campaigns. First to reach the Middle East were those of the 12th BG, which left for that theatre in July-August, 1942, and, after a stay in Egypt, moved on to Sicily, Crete and Italy, later operating in India. The 22nd BG arrived in the Far East in October, 1943, and operated Mitchells over the New Guinea area until their replacement in February, 1944. The 25th BG used them for anti-submarine patrols off the USA, the 38th employed them between September, 1942, and October, 1944, within the 5th Air Force and attacked shipping and airfields, the 41st BG fired rocket projectiles from beneath the wings of its aircraft in the Far East, and the 42nd flew B-25s from the Solomon Islands, later in the Philippines. In addition, there were many other formations of the US Air Force and the US Navy using B-25s modified in a variety of ways for strike and reconnaissance duties, sometimes with cameras in a bulge beneath the nose. There were hosts of field modifications to the Mitchells, some B-25Js, for example, acquiring solid noses and B-25Hs clear noses, and various versions had wing points for rockets. The Russians received a large number of B-25s via the Middle East, and the 1st Bombardment Group (Medium) of the Chinese Air Force was equipped with some of the 131 machines diverted to China. After the

war, many air forces equipped with surplus Mitchells, particularly in South America, and others were converted into high-speed civil transports.

MITCHELLS IN THE ROYAL AIR FORCE

No 98 Squadron (coded VO) equipped with Mitchells in September, 1942, at West Raynham and moved to Foulsham on October 15. When the shake-up on No 2 Group squadrons took place in August, 1943, the unit moved to Dunsfold on August 19 and was subsequently busily engaged against V-1 sites in France, invasion targets and the V-3 site at Mimoyecques. This role continued from Swanton Morley in 1944, and around D-Day No 98 began night operations, making flare drops over road and rail targets. In October, 1944, it moved to Brussels and continued close support attacks, received Mitchell IIIs early in 1945 and ended the war at Achmer. Its aircraft included VO-T:FL202 and VO-N:FW205 in 1943, VO-A:FW189 with AEAf stripes, and Mk III KJ666:VO-A. FW205:VO-N, which I recorded on June 11, 1944, was the most interesting machine of the squadron that I saw. At first glance, it was an ordinary Mk II. VO was, however, painted aft of the roundel, behind the customary rear window. Ahead of the roundel was a large flat panel divided into four parts, a window taking the place of the bulged panel of the B-25J's fitting. The dorsal turret was placed as usual on the Mk II—and this machine had the rear gun position of the B-25J. Shaken by its hybrid form I returned for a second convincing look.

No 180 Squadron equipped with Mitchells in September, 1942, forming at West Raynham on September 13 and moved to Foulsham with 98 Sqn. Its history approximated 98's and its aircraft included FV945:EV-L (B-25D-15-NA) in 1943, EV-S:FW264 with AEAf stripes, and HD347:EV-Y, a Mk III.

No 226 Squadron converted from Bostons to Mitchells in summer, 1943, at Swanton Morley, beginning operations on July 30 with an ASR search, and lost an aircraft to two marauding Me 210s. During the campaign against Noball targets and the invasion build-up, 226 moved to Blackbushe and to Gilze Rijen in Holland in October, 1944. Its aircraft were typified by MQ-H:FV924 in November, 1943, MQ-H:FW128 in AEAf stripes and MQ-S:KJ613, a Mk III.

One Polish squadron—No 305 based at Lasham—operated Mitchells briefly between November and December, 1943. FV916 was one of its SM coded machines. Between them, Nos 18 RAAF Squadron and No 320 Sqn handled many B-25s, the former in the Far East and the other in Britain. No 320 equipped with Mk IIs at Attlebridge in April, 1943, moved to Dunsfold in February, 1944, and Brussels in October. FR178:NO-C was one of its 1943 aircraft, FR197:NO-A had AEAf markings, KJ587:NO-F was a Mk III. After the war, the squadron became part of the Dutch 'KON MARINE' which legend its dark grey and light blue aircraft carried in white on their lower rear fuselages. FR194 was I-18, also in white on the rear fuselage 18 aft. No 342 Free French Squadron gave up Bostons in March, 1945, and then used Mitchell IIs and IIIs with OA aft of the roundels, nose individual letters, French rudder stripes and roundels. FW181:OA-W and KJ643:OA-G were examples.

Crews for the Mitchells were trained at No 13 OTU, where both Mk II and III were used (eg FW119:KQ-A and FW114:FV-D). Few other units used Mitchells, although FL215 found its way late in the war to No 1482 Gunnery Training Flight.

M. J. F. Bowyer

AIRFIX magazine



Above: Plt Officer Stephens was the pilot of this Hurricane N2359 of No 17 Squadron. This new official Ministry of Defence photograph depicts the machine in the summer of 1940. Code letters were grey and the spinner also looks to be the same colour. **Below:** A rare and 'new' Ministry of Defence picture of two Spitfire 1s of 41 Squadron in 1940. The serial numbers cannot be read off the print—and possibly they were not on the aircraft. The under-surfaces are either sky or silver, the codes mid-grey and spinners black.

photoPAGE

The selection of World War 2 aircraft pictures, published last month, attracted encouraging response from readers and we hope to make 'photopage' a monthly feature. Further pictures, particularly of squadron aircraft, will be published as available. We would be pleased to consider interesting contributions from readers, and a free Airfix kit will be awarded for each picture used



Below: A typical 1940 scene in yet another recent Ministry print, recorded probably late in August, 1940, at Hornchurch. Nearest is ZD-D: X4278, XT-M behind is almost certainly X4272, and has the usual larger individual letter of the squadron's aircraft, No 603 ZD-J and ZD-W are behind her.

Above: The first Ju 88A to be destroyed by No 17 Squadron, in a field near Tangmere in 1940. Can any of our readers shed any light on the machine? (Photograph: Ministry of Defence.)



New kits and models



EARLY WARNING

A NUMBER of exciting new plastic construction kits will shortly be available from BMW Models, of Wimbledon. Though samples were not available in time for them to be reviewed this month, we hope to be able to discuss most of them in more detail in the January issue.

They include four more 1:50 scale Japanese Tamiya aircraft kits, all selling at 12s 6d each, and featuring a Zero 52 (available from early-November), a Shinden-Kai (late-November), a Raiden (mid-December), and a Goshikisen (mid-December). Also scheduled to be available from mid-November is another fully working 1:35 scale Tamiya military model of a Chieftain tank, price 29s 6d. Others in this splendid series will follow shortly.

BMW Models are also shortly taking delivery of the first supplies to reach the UK in the Japanese Kogure series of 1:48 scale aircraft. These feature transparent plastic, to show internal detail such as engine, crew, etc, and provision is made for motorisation. The first Kogure model to arrive will be the Zero 52, priced at 23s 6d.

It is difficult, with advance press schedules, to give exact arrival dates for all these kits, but BMW Models will be pleased to take advance orders for delivery as soon as possible.

D.R.

MAGNIFICENT MERC

PROBABLY the best-known and most sought-after high-performance car of the '50s was the Mercedes-Benz 300SL gull-wing coupé. A fine 1:25 scale plastic kit of this car has now been produced by the American AMT company and is on sale in this country priced at 24s 11d.

The kit is moulded in white, chrome-plated and transparent plastic and fits together with a precision that has come to be expected from this company. Working parts include opening gull-wing (upwards-hinging) doors, an opening bonnet and boot lid, steering and revolving wheels.

The big six-cylinder, fuel-injected engine is reproduced in magnificent detail and is one of the few model engines we have seen that features plug leads. The whole unit nestles down realistically among a maze of chassis-frame tubing and, with the bonnet open, it makes an impressive sight. The model is notable for its true-to-prototype detail, even in places which are concealed with the body and under-tray in place. One of the major assemblies hidden in this way is the rear suspension and transmission—but it's nice to know it's there!

The interior cannot be faulted in any way, the dash panel in particular being a magnificent moulding. Other points to note are that the doors don't fit too well, there is a choice

of plain or chromed wheels, the headlights are about the most realistic we have yet seen, and why is the boot-mounted spare wheel smaller than the other four? Nonetheless, this model is a fine example of the art. Our review kit came from Auto-Models, who hold stocks, as do BMW Models.

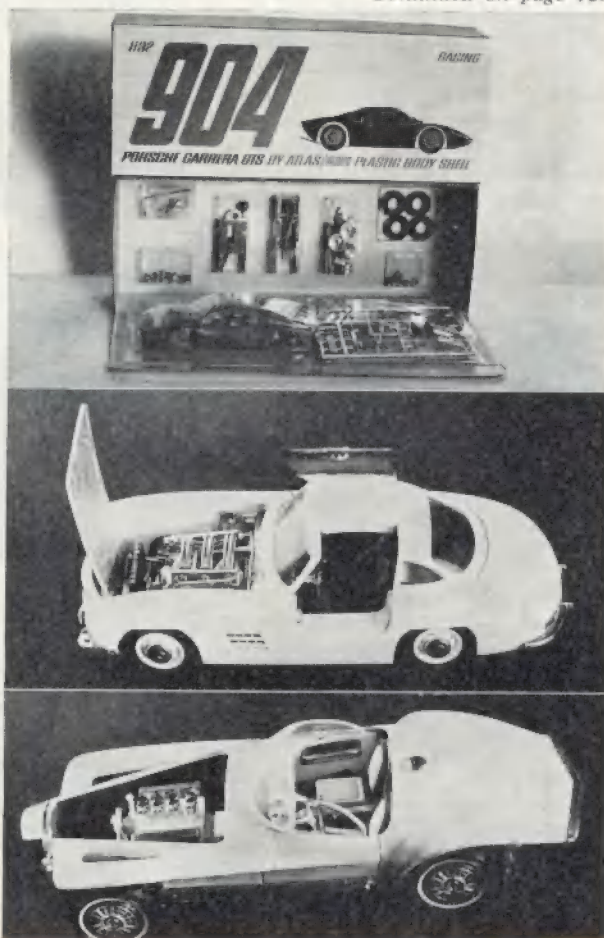
D.C.N.

1:32 SCALE PORSCHE 904

MONOGRAM have already done an excellent job on modelling the Porsche 904, both in 1:24 and 1:32 scale. Now, yet another American model of this successful German GT car is announced. BMW Models, of Wimbledon, have supplied us with a sample of a 1:32 scale Porsche 904 from the Atlas Tool Co Inc, which sells in the UK for £4 9s 6d.

The kit contains both the body shell and 8 volt electric motor, plus running gear, and enables a slot-racing version to be built. The body is in unbreakable ABS (Acrylonitrile

Continued on page 126



Right, top to bottom: 1:32 scale Atlas Porsche 904; 1:25 scale AMT Mercedes-Benz 300SL; and 1:25 scale Renwal '66 Mercer.



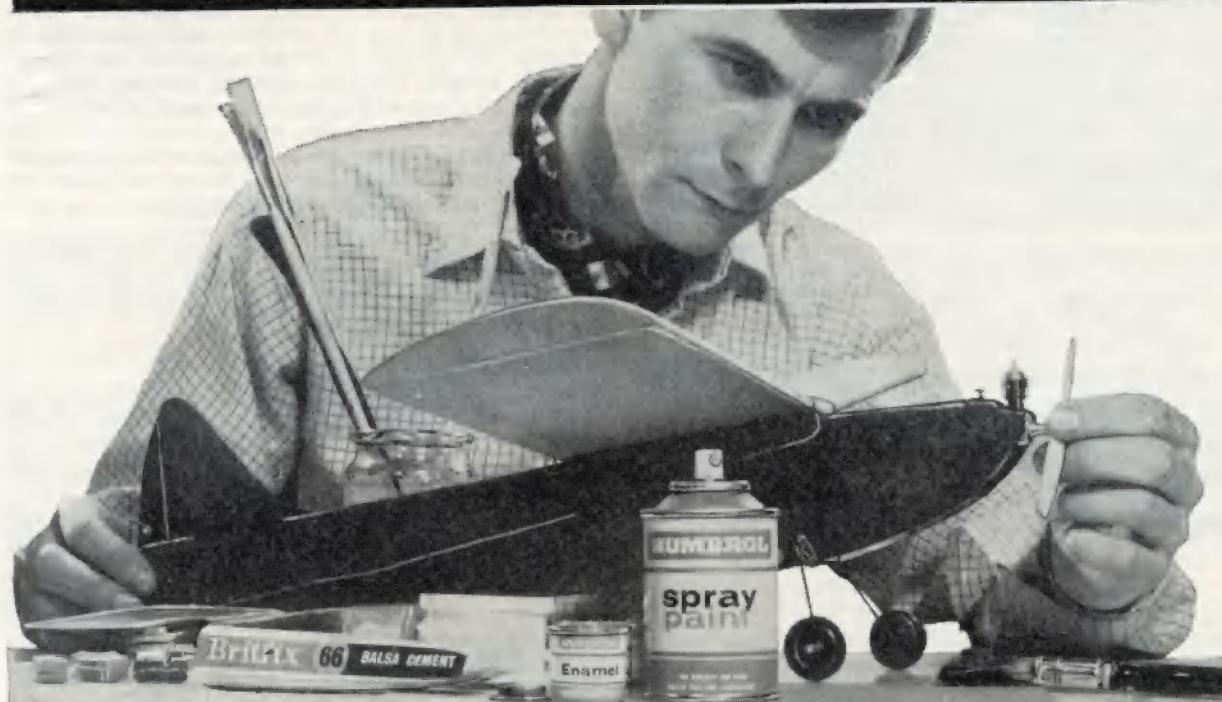
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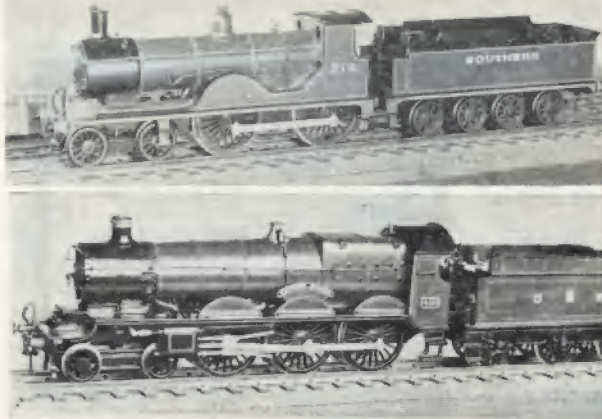


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Latest Wills Finecast OO gauge metal locomotive kits are the LSWR T9 4-4-0 (top) and the GWR Star 4-6-0.

Butadiene Styrene) plastic, and there are a number of chromed parts for exhaust pipe, petrol filler, wheel inserts, and so on. The chassis is adjustable for length, while aluminium wheels and rubber tyres are provided. The brass bevel gears are quickly changeable and routine servicing can be carried out by removing the front mounting screw and swinging away the body—it does not have to be removed completely. Transfers are also provided, and although the Atlas Porsche 904 is in the upper price bracket it appears to be a first-class model.

Quite an unusual feature of this kit is that it is one of the first we have seen to advocate the use of heat sealing (with a soldering iron) most of the parts together. By the time this appears in print, BMW Models hope to have supplies of two more 1:32 scale Atlas kits—featuring the Ford GT and a Formula 1 Brabham-Climax. *D.R.*

DINKY DOUBLE

TWO new Dinky Toys have just been released by Meccano. The first is an eight-wheeled Leyland dump truck with tilt cab and huge tipping body. The cab tilts forward to reveal a well-detailed engine, the body tips on 'hydraulic' rams, and there is also an opening tail-gate. Finished in off-white, orange and blue, and featuring colourful transfers on the tail-gate, the 7½ inch long model costs 19s 11d.

A new variation on the die-cast Mini theme is Dinky's RAC patrol van. It is finished in the club's bright blue livery, with a white roof, and sports authentic 'RAC Road Service' transfers, opening rear doors, suspension and steering. Just over 3 inches long, it sells for 4s 11d. *D.C.N.*

NEW LOCO KITS

TWO models have been added to the Wills Finecast range of OO gauge locomotive kits, the LSWR T9 4-4-0 and the GWR Star 4-6-0. All these locomotives have now been withdrawn from active service but an example of each has been preserved.

The T9 will be immensely popular among Southern fans, since at one time or another they have operated all over the system from Padstow to Ramsgate. The Star will long be remembered as the forerunner of the range of GWR four-cylinder express engines. The model will form a most useful companion to the Hornby-Dublo Castle and the Hall kit which was introduced by Wills a year ago.

Both kits are cast metal but no-one need fear any difficulty in their construction. A very clear instruction sheet

illustrates and describes the assembly, which can be accomplished using little more than a small file and a tube of adhesive. The realism of the completed models is beyond reproach, as the accompanying illustrations will show.

The kit for the T9 locomotive body and tender—including tender wheels—costs 79s. A special chassis kit is available, price 39s 5d, but driving wheels and motor have to be purchased separately. The Star body and tender kit costs £5 18s 7d, and is designed for the Tri-ang B12 chassis. *N.S.*

PUTTY AND PAINTS

NEWS of three new releases comes from Humbrol this month. Kit conversion enthusiasts in general—and car customisers in particular—should be pleased to hear of the introduction of a tube of Humbrol body putty. This is useful for hiding joints, modifications, defects and damage in plastic models, and for re-shaping generally, and the tubes, which cost 2s 9d each, carry complete instructions and include a special spreading cap.

A selection of six vials of fluorescent paint is now available as a Humbrol Mini-Kit, price 3s 6d. The paints dry quickly and give a bright, vivid finish. They are also non-radioactive. Finally, Humbrol announce the introduction of a range of handy 4 ounce aerosol sprays containing their recently-announced International Racing Colour paints. These should be another big attraction for the car modeller, and are priced at 6s 6d each. *D.C.N.*

UP-TO-DATE CLASSIC

AN unusual prototype forms the basis of one of the latest American Renwal kits to appear in this country. This is one of the 'Revival' series, and depicts the '66 Mercer. The series itself stems from an idea by Virgil Exner, formerly in charge of styling at Chrysler, who began wondering what some of the old-time classics, such as Mercer, Duesenberg, Stutz and Packard, would look like if they were still being produced today.

The last Mercer was manufactured more than 40 years ago, but Exner styled a car as he thought the original would have developed, and a prototype was actually built for the Copper Development Association. A great amount of copper was used in its construction to show the automotive possibilities of this material, and the car was powered by a Cobra-Ford V8 engine.

The Renwal model includes many handsome copper-plated parts, together with the more usual chromed items, and fits together quite well. Features include a detailed engine, copper-and-chrome instrument pods, cockpit trim, wrap-round windscreen, outside exhausts, red tail-lights and revolving wheels. This is an interesting replica of a most unusual (if not exactly beautiful) prototype. It is easily converted to slot-racing and, in 1:25 scale, measures 7½ inches in length. Our kit came from BMW Models, of Wimbledon, and sells at 27s. *D.C.N.*

MODEL CATALOGUE

THERE are few publications that can offer the reader 100 pages for only 1s, but Gamages model book is one of them. The 1965-1966 edition has recently been published, and it is full of interest to modellers. Copiously illustrated, it describes fully the wide range of model roads and raceways, model railways and plastic kits stocked by the model department of this London store, and also includes details of many other hobby items. Copies can be ordered by post from Gamages, Holborn, London, EC1, when an extra 6d should be remitted to cover postage. *D.R.*

Letters to the Editor

Letters to the Editor can only be answered in the magazine. Readers whose letters are published each receive a free Airfix plastic construction kit of their choice. We are always pleased to receive your comments and pictures, which will be considered for publication. Submitted material and pictures can only be returned if accompanied by a stamped addressed envelope, and the Editor cannot accept responsibility for safe keeping of any such contributions, neither does he necessarily agree with comments expressed by correspondents in the letters column.

One that got away

I MUCH enjoyed the November issue of AIRFIX magazine. This is among the best you have done—something for everyone, and the idea of the photopages on 'Crash Landings in Kent' etc, is really excellent, and certain to be very popular.

It is with regard to this that I write, really. Firstly, the 110C 'U8+HL', which is from 3rd Staffel/I Gruppe/ZG26, the white nose and rear fuselage stripe confirming this, these being in the form of temporary 'operational' markings.

The 109E is, of course, that of 'The one that got Away'—Von Werra—and the single chevron indicates that this is, in theory, that of the Gruppe Adjutant, the small 'Badge of Gyrony' being carried by II Gruppe/JG3 'Udet'; the horizontal bar aft of the cross also confirms that this is a II Gruppe aircraft. The straw-shaded underside to the cowl could be, in fact, the washable paint used by many fighter units at that time as a form of operational identification feature.

R. C. Jones, Solihull, Warwks.

Wrongly described?

I CONGRATULATE you on the introduction of the two pages of World War 2 aircraft photographs, (November issue) but I think the Bf 109E-4 depicted is possibly wrongly described.

I think this is the plane that Oberleutnant Franz von Werra flew. The unit is right (11/JG3), the chevron, horizontal bar and the unit emblem were that of Werra's machine.

The camouflage was green, and with a dark green splinter on the upper surfaces of the fuselage and wings. A new cowl panel replaced a damaged one, this panel was of a different camouflage (mottled). The spinner was red and white the lighter coloured nose, from spinner to end of exhaust outlet, was painted white. The rest of the fuselage was standard pale blue, the rudder was also painted white.

You state that there were 26 victory marks, but when von Werra was shot down on September 5, 1940, near Marden, Kent, there were only 13 victory marks. The victory marks were painted black with a British roundel in the middle. The white part of the roundel could give the impression of four rows of victory marks instead of two rows (five on top and eight on the bottom), thus making it look a double amount of victory marks, adding up to 26 as you state.

Some of the above information came from Profile Publication No 40 (Messerschmitt Bf 109E), the Werke Nr of the aircraft was 1480 and it crashed on its tenth mission over England.

Ian A. Simpson, Grantham, Lincs.

A number of other readers wrote in similar vein to these two correspondents. M. J. F. Bowyer, who captioned the pictures, writes: The surest way of arousing readers' interest in any magazine is to make an error! So I hasten to say I cannot count—there are 13 claim stripes on the fin of this Bf 109E, interrupted by mock RAF roundels. As to the cowl colour, I have turned up my wartime notes and find that when I saw the aircraft the under-cowling was 'straw' and the spinner black and white. This was about six weeks after it had been brought down. I made no note of the tail colouring, nor did I note any claim markings.

A fundamental error has crept into thinking on the splinter markings on German aircraft, for so very often it was almost impossible to decipher such a pattern, and the photographs of this 109 shows this to be yet another example. I looked at a very varied assortment of these machines during the war years and, frankly, I often could come to no certain conclusion regarding the pattern involved, so 'diluted' was the scheme.

Regarding the Bf 110, there would seem to be most evidence that the machine was in the hands of ZG 26 when brought down but I think a little care might be exercised, for surely the markings of an aeroplane do not denote the designation of the unit

actually operating it. As an example of this one might cite Lancaster ED908 of 582 Sqn, crewed by 109 Squadron when lost on operations. The same was certainly true of German aircraft, and my note was tinged with caution, intentionally.

One thing is certain, the 'photopage' has had a good start—but now it is up to readers to start digging out those exciting pictures that rest in dust-covered albums, attics and less-worthy places. We prefer to have photographs of aircraft available in kit series, but a good line-up of Harrows taken in 1940 and a camouflaged Heyford would be quite acceptable . . . spades out, friends!—Ed.

Removing gloss

HAVING read reports on new model aircraft and seen several complaints made against the transfers being glossy, I have come across a fairly effective remedy. Before applying them, rub the sheet over with an eraser. This removes most of the superficial gloss.

James Nicolson, London, W6.

Arms race

IN this, the 150th anniversary year of Waterloo, could we not have had a series of Airfix OO/HO soldiers of the Napoleonic era?

With their colourful and varied regimental uniforms, they would give the plastic modeller ample opportunity to display his artistry with the paintbrush. They would also be a boon to the wargamer, since wargames of this period need less space and much less complicated rules than the World War 2 type, because of the shorter ranges and simpler weapons involved.

May I suggest that each side—British and French—should include artillery, a 'mixed bag' of cavalry (a troop each of dragoons, hussars, lancers, etc), and infantry of the line? In this way quite sizable armies could be built up, by buying more sets and painting the uniforms to accord with the colour schemes of different regiments. Painting suggestions, detailing

Continued on next page

Letters to the Editor

Continued

the various possible uniform colours, regimental facings, etc, could be printed on each box.

I might add that we wargamers provide manufacturers with a market well worth cultivating—not content with buying just a single example of each new tank, aircraft or set of soldiers, we engage in a continuous and highly lucrative arms race!

'Iron Duke'

(name and address supplied).

Two tips

As an avid reader of AIRFIX magazine, I have in the past picked up many useful tips from your readers' letters. I have a couple of tips which I hope will be of use.

The first concerns that much-debated subject of lines on cockpit canopies. While many favour a fine brush, others use a sharpened matchstick, but as far as I can discover this one takes some beating.

Yeoman make a decal strip containing about six or eight lines, in various colours, and these are thin enough to make excellent canopy lines, the technique employed being simply to cut a required length of strip and apply as you would an ordinary decal.

The second tip concerns scale figures. With such small faces, I have found that—after a coating of flesh paint—features tend to be obscured to a degree.

To add realism, I either take a small straight pin and bore out the eyes just enough to give them the required 'depth', or touch them in with black paint, again on the end of a small pin.

G. A. Thomas, Leicester.

Simplest yet?

C. O. ELLIS'S article on Assault LVTs in the November issue reminds me that, in the seaborne invasion of Malaya in 1945, ordinary 25 pounders on their platforms were mounted on improvised wooden cradles in Buffalos to provide close support to the assault troops.

Surely this must be one of the simplest authentic conversions yet—with both Buffalo and 25 pdr available from Airfix! None of those complicated added superstructures which blossomed in Europe—but some lengths of 3 inch × 4 inch timber installed by the

gunners' own 'tiffies'—and the whole caboodle loaded to the gunwales with ammo and stores—about three inches of freeboard on a dead-flat sea. The idea was that they should swim out of an LST and sail in under their own power, firing as they ploughed shorewards.

It is significant, perhaps, that this invasion was code-named ZIPPER, and was always remembered by those who took part in it as the one operation which wasn't buttoned up.

Mike Bryant, Sutton Coldfield, Warwks.

Fw190 conversion

SINCE receiving volumes 1 and 2 of William Green's 'Fighters of the Second World War', I have been going through them looking for a good conversion model. I finally found one and decided to write to you. It concerns the conversion of the Airfix Fw190D to an Fw190A-5 torpedo bomber. My reference was volume 1 of the above books.

Firstly, remove 9/10th inch from the nose of the Fw190D and remove any remaining parts of the exhaust and other sections around the nose. A new engine cowling now has to be selected, as the one on the Airfix model is too small. I used the cowling from an Airfix Havard which, when cut and sanded into shape, makes an ideal one. However, modifications will have to be made to the inside front of the engine cowling. After this, smooth down all the upper surfaces of the fuselage from the cockpit to the nose, including the cowling-mounted machine guns.

The wings and cannon can now be attached to the fuselage. A longer tail wheel will have to be attached to accommodate the torpedo. Finally, cement the two torpedo crutches from the Beaufighter on to the underside of the Fw190. After the fins of the torpedo, which is also taken from the Beaufighter, are extended according to the photograph on page 98, the model is completed. However, if any other small modifications are to be made, the closest diagram is that of the Fw190-3 on page 96.

R. Hall, Wollongong, NSW, Australia.

For the record

WHILE not wishing to enter into a long-distance argument with R. Hampton, whose letter I have just read in the June, 1965, issue of AIRFIX magazine, I wish to put the record straight on these points.

On checking, I find Mr Hampton is right, and only NZ5612 was a Goodyear-built machine. Unfortunately, the constructor's plates had been removed from the other aircraft and I rather jumped to conclusions as to their identity.

As for the finish on these Corsairs, they were definitely dark blue on all surfaces, with other markings as I previously stated. This finish may possibly have been applied after the war's end, on this point I have no positive proof. Maybe another reader will be able to throw some light on this?

I hope this clears up any confusion that may have been caused by the previous letters.

On the subject of further kits, when are we going to get the early World War Two bombers ie: Whitley, Battle, Blenheim and Hampden?

P. G. M. Dingwall, Auckland, NZ.

Realistic ballast

I WAS recently flicking through some back-numbers of railway magazines, and I noticed a number of articles concerning ballasting. Since it appears that quite a number of people find difficulty in producing a realistic ballast, I would like to describe the method I have found to be the best.

This method makes use of scale granite ballast manufactured by Southern Sand & Ballast Ltd, 12 College Place, Southampton. It costs 2s per lb, postage paid. The method they suggest is to mix the ballast into a mixture of Polycell. The Polycell should be very well mixed according to instructions before the ballast is added, to avoid large blobs of pure Polycell being deposited instead of the ballast.

If it is wished to have the ballast painted, the method I use is to mix in a good deal of Humbrol track colour before application. When it has been mixed, the ballast can be applied with a spoon and a flexible knife (I use an old artist's palette knife). The resulting surface will be a bit rough as the mixture tends to cling to the knife, but it can be finally smoothed down when it is a bit drier—about 24 hours later. When dry, about two days after application, this method gives a very realistic ballast which does not easily rub off but can nevertheless be easily scraped away. If it is required to have a foam cushion for the track to rest on, I expect this ballast could be laid over the foam.

AIRFIX magazine

although I have not tried this myself.

Another idea I thought railway modellers might be interested in is my method of building scenery. I build a wire-mesh framework of $\frac{1}{4}$ inch mesh, and stuff this up with newspaper (if the hill is particularly high or is cut-off at the edge of the baseboard it should be supported by wood as well). On top of this I lay a mixture of Polyfilla and paint—directions for making this 'Swedish putty' are given on the packet. This makes a very strong hill. Once again final smoothing can be done when the mixture has dried a bit—after about 10 minutes to $\frac{1}{4}$ hour.

George B. Gray, Eastbourne,
Sussex.

Still going strong

THE DUKW shown in the enclosed picture (reproduced below—Ed.) is still going strong doing a valuable job



of work patrolling the beach at Southport, Lancs.

I would like to know if this is the only one still in existence in the UK.

On another point, C. O. Ellis stated in the last paragraph of his article on Flamethrowing Carriers (July issue) that the range of the fuel projector was 120 yards. In fact, the range was the same as the Churchill Crocodile—150 yards.

D. Pickles, Denton, Manchester.

C. O. Ellis writes: DUKWs are still in service in Britain with Royal Corps of Transport amphibious transport companies, pending the introduction of the new Stalwart. This 'civilianised' version would make a good excuse for including a DUKW on a model railway layout. Note the ladder, which in model form could come from an Airfix signal gantry kit.

Mottled camouflage

DUE to the interest shown in Letters to the Editor regarding methods of producing mottled camouflage, I thought that I would send along an idea that has produced consistently fine results for me, and is simple too.

All that is needed is an ordinary

kitchen sponge, anywhere from one to two inches thick (about an inch and a half is best). With a modelling knife, cut off a few vertical sections of irregular shape, corresponding to the size and shape of the mottle desired, which will vary with the scale of the aircraft under construction. After these are cut, the bottom of each one can be made even more irregular for added diversity of the pattern, if desired.

Paint the model completely in the base colour. Then dip one sponge-bit in the colour of the mottle to be applied, blot it one or two times on any convenient material, and apply it to the aircraft with gentle pressure. Then do the same with another, and so on. By turning each bit slightly before it is applied each time, an infinite variety of mottle patterns can be achieved. A little practice will quickly provide what is needed in the way of size, shape, thickness of paint, amount of blotting necessary, pressure of application, etc, for best results.

I would also like to add a note of agreement to the letter by Mr Staggs in the July issue concerning the lamentable lack of proper swastikas, Italian insignia, etc, where called for. Why should the whole modelling fraternity be punished for the short-sightedness of a minority of politicians who would like to pretend WW 2 didn't happen? Can't Airfix find a way of relaxing this 'no-swastika' policy, at least in certain parts of the world?

While on the subject of transfers, do any of your readers have a good system for producing unit markings, etc, for themselves in the form of transfers?

If I may play the 'suggest-a-kit game', I would like to see the Heinkel He51 biplane fighter, with alternate transfers for either Luftwaffe or Spanish Civil War markings.

Lee E. Bishop, Jr, Los Angeles,
Calif, USA.

Mitchell markings

I WAS delighted to see that Airfix have released a B-25J in their 1:72 scale range, and in the colours of 'Lady Luck' no less. I thought some readers would be interested in the colours of other Js that were flown by the 340th Group.

When the initial batches of Js arrived, they were in their bare metal colours, but were quickly painted in olive green (not olive drab) and grey. When more replacement Js arrived,

it was decided that they would be left unpainted, since the camouflage paint hindered airspeed on combat missions. But on the night of May 12, 1944, while based at Alesan L/G, Corsica, the 340th was hit hard by a force of about 25 Fw190s, Ju 88s, and He 177s. The Group suffered heavy losses to personnel and aircraft in this raid. Since the silver ships stood out in the light of the flares dropped by the Germans, it was decided to paint the upper surfaces of the B-25s in olive green, but to leave the lower surfaces natural aluminium, since the metal finish was more difficult to spot than the standard grey that was used earlier in the War.

Two final notes of detail. The lower portions of the cowl rings were painted yellow as some sort of Group marking. Also, some of the original Js arrived bearing the machine gun packs on the fuselage sides. On most of these ships the guns were removed since low level duties were not the order of the day with the 12th AAF. One early J arrived with the gun packs, and was quickly done up in the olive green and grey paint. Later the packs were removed, leaving four bare metal silhouettes on the sides. This particular ship was 9S, serial number 43-4080, and it carried the 489th Squadron insignia on the right side of the nose.

J. Griffin Murphey, Cincinnati,
Ohio, USA.

Information needed

MR. K. R. SANDFORD, of 5 High St, Axbridge, Somerset, is writing a book on the Hawker Typhoon and Tempest, and would like to appeal for information concerning all marks of the two types; squadrons and units that operated these aircraft, with serials and respective codes, and periods of service with bases; squadron victories and losses, with pilot's names and dates; all actions in which they took part; aircraft fates (ie, accidents, where scrapped, etc); and finally photographs or negatives of these aircraft (which Mr Sandford would prefer to buy). Any material lent will be well cared for and promptly returned, together with an acknowledgement and postage refund.

Pen-friends wanted

THE following readers have written to the Editor requesting pen-friends. Vincent Yeap (13), 31 Salween Rd, Penang, Malaysia, would like pen-pals from the British Isles aged 13-15. Milos Tichy, 40 Cihlarska, Brno, Czechoslovakia, would like to contact an English enthusiast who is willing to supply him with copies of AIRFIX magazine and also 1:25 scale car kits in return for Czech aeronautical and model magazines and East German plastic aircraft kits. M. J. Connor (12), 15 Wellington Rd, Wallasey, Cheshire, would like to correspond with a boy in France aged 12-13, who is interested in stamp collecting and 1:72 scale aircraft, and who is willing to exchange kits and stamps. Interested readers are invited to establish contact direct, at the addresses given.

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Airfix Magazines: July; October (x2)—December 1960; January 1961 (x2)—April; July—February 1962; April—August; October—June 1963; August 1963—October 1964. Offers? E. J. Hitchin, 52 Ferguson Road, Blackpool, Lancashire.

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Buy, borrow Airfix September 1963, January, February 1965 complete. Write V. Mathews, Midland Bank, London Street, Norwich, Norfolk.

ARE YOU A KIT CONVERTER?

We have many letters from readers requesting back copies of AIRFIX MAGAZINE containing conversion articles. Back copies of many issues are still available for the benefit of readers who may have missed or mislaid earlier editions. For example, here are some of the practical articles which have appeared in recent issues.

1964: September—Motorising the Airfix Saddle Tank. **October**—Converting the Airfix Ju 88. **November**—Conversions with the Airfix Centurion. **December**—Carrier conversions and Catalina Profile. **1965: April**—Making Japanese infantry equipment and converting the Airfix Boston IV into an A-20G. **May**—Converting the Airfix Sherman into a Priest. **June**—Building a Hector from the Airfix Hawker Hart. **July**—Motorising the Airfix City of Turro. **September**—Adaptations of the Airfix Jeep. **October**—Modifying the Airfix Gladiator. **November**—'Ajax' cruiser and Lightning conversions.

Would readers please note that the following is a revised list of those issues that are now out of print: all 1960 editions; January, February, March, May, June and October, 1961; September, October and November, 1963; February, March, April, May, June, July and August, 1964; January, February, March and August, 1965.

Back copies cost 1s 6d each (including postage) for all issues up to and including August, 1963. From September, 1963, onwards, the cost is 2s per issue, post paid. Please address all requests for back copies, together with your remittance, to our circulation department at SURRIDGE, DAWSON (PRODUCTIONS) LTD, 136/142 NEW KENT ROAD, LONDON SE1.

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AIRFIX magazine

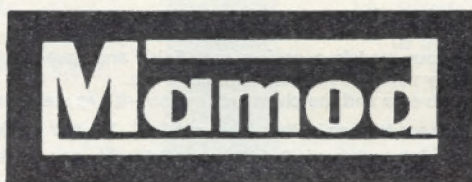
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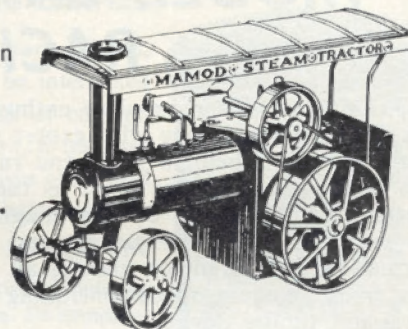
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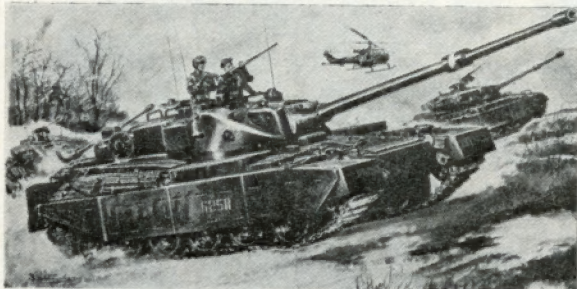
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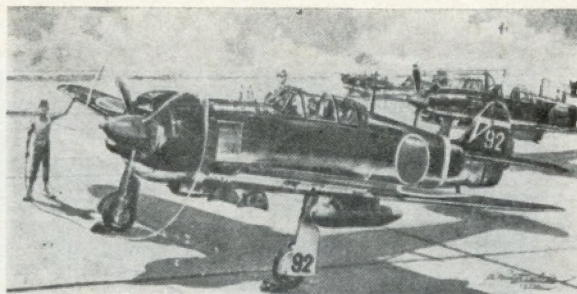
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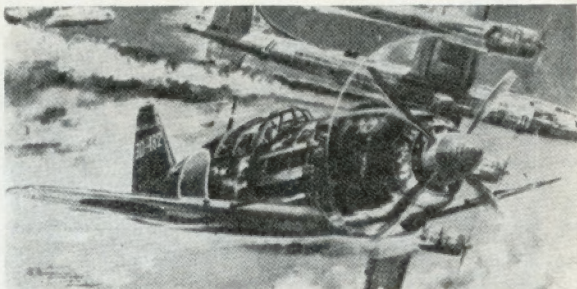
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